**STATE OF WASHINGTON**
**DEPARTMENT OF ECOLOGY**

| In the Matter of Remedial Action by: | AGREED ORDER |
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| The Port of Camas-Washougal | No. DE 9935 |

TO: Mr. David Ripp, Executive Director
The Port
24 South A Street
Washougal, Washington 98671

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## I. INTRODUCTION

The mutual objective of the State of Washington, Department of Ecology (Ecology) and the Port of Camas-Washougal (the Port) under this Agreed Order (Order) is to provide for remedial action at a facility where there has been a release or threatened release of hazardous substances. This Order requires the Port to: (i) conduct the terrestrial ecological evaluation necessary to support the Cleanup Action Plan which has been developed pursuant to this Order and is attached hereto as Exhibit "C", (ii) based upon the results of the terrestrial ecological evaluation, modify the Cleanup Action Plan as directed by Ecology, and (iii) implement the requirements of the Cleanup Action Plan. Ecology believes the actions required by this Order are in the public interest.

## II. JURISDICTION

This Agreed Order is issued pursuant to the Model Toxics Control Act (MTCA), RCW 70.105D.050(1).

## III. PARTIES BOUND

This Agreed Order shall apply to and be binding upon the Parties to this Order, their successors and assigns. The undersigned representative of each Party hereby certifies that he or she is fully authorized to enter into this Order and to execute and legally bind such Party to comply with this Order. The Port agrees to undertake all actions required by the terms and conditions of this Order. No change in ownership or corporate status shall alter the Port's responsibility under this Order. The Port shall provide a copy of this Order to all agents, contractors, and subcontractors retained to perform work required by this Order, and shall ensure that all work undertaken by such agents, contractors, and subcontractors complies with this Order.

## IV. DEFINITIONS

Unless otherwise specified herein, the definitions set forth in Chapter 70.105D RCW and Chapter 173-340 WAC shall control the meanings of the terms in this Order.

A. Site: The Site is referred to as Hambleton Bros Log Yard and is generally located at 335 South A Street, Washougal, WA. The Site is defined by the extent of contamination caused by the release of hazardous substances at the Site. Based upon factors currently known to Ecology, the Site is more particularly described in the Site Diagram (Exhibit A). The Site constitutes a Facility under RCW 70.105D.020(5).

B. Parties: Refers to the State of Washington, Department of Ecology and the Port.

C. Port Property: Refers to the Property owned by the Port as described in the Site Diagram (Exhibit A).

D. Potentially Liable Person (PLP): Refers to the Port.

E. Agreed Order or Order: Refers to this Order and each of the exhibits to this Order. All exhibits are integral and enforceable parts of this Order. The terms "Agreed Order" or "Order" shall include all exhibits to this Order.

## V. FINDINGS OF FACT

Ecology makes the following findings of fact, without any express or implied admissions of such facts by the Port:

A. The Port Property is a portion of the Hambleton Bros Log Yard property as shown on the attached Clark County Assessor's Office record (Exhibit B). The Hambleton Bros Log Yard Site is located at 335 South A Street in Washougal, Washington. The original Hamilton Bros Log Yard property encompassed 25 acres. The Site is made up of two of the three existing new parcels and encompasses a total of approximately 13.23 acres. The Site (new parcel 2 and 3 on Exhibit B) is described by parcel numbers 73134153 and 73134179. The Site is located in Sections 7, 12 and 13, Township 1 North, Range 4 East of Willamette Meridian.

B. A Phase 1 Environmental Site Assessment by Certified Environmental Consulting, Inc. in 2006 recognized several environmental conditions were present at the Site, including three underground and five above ground storage tanks, pond surface water sheen, possible presence of dioxins from 2009 fire, and PCB's, metals, and PAHs in soil and pond sediment.

C. A Preliminary Work Plan for Log Pond Decommissioning prepared by Certified Environmental Consulting, Inc. and Evren Northwest, August 20, 2008, describes sediment and surface water sampling at the log pond prior to proposed decommissioning. Analysis of sediment samples indicated elevated concentrations of diesel and residual oil range petroleum hydrocarbons, Methylene chloride, copper and lead. Surface water samples detected elevated concentrations of gas, diesel and residual range petroleum hydrocarbons, naphthalene, 4-methylphenol, arsenic and chromium. The work plan recommended removal and treatment of log pond water, and removal and disposal of pond sediment.

D. A Draft Initial Independent Cleanup Report and Risk Assessment by Certified Environmental Consulting, Inc. in 2009 describes a magnetic survey and subsurface environmental investigation. The survey did not find any underground storage tanks. The report recommended decommissioning the log pond, removing surficial soil underlying the mill area, and a subsequent residual risk assessment incorporating these two actions.

E. A Draft Focused Site Assessment Report prepared by Maul Foster & Alongi, Inc., January 16, 2012, identified metals, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), and petroleum hydrocarbons and their constituents above MTCA cleanup levels at the Site. This report was deemed to satisfy the substantive requirements of a MTCA remedial investigation and feasibility study.

F. The Port prepared a draft Cleanup Action Plan and a Terrestrial Ecological Evaluation. Based upon the comments from Ecology and the results of the Terrestrial Ecological Evaluation, the Port completed the Cleanup Action Plan. This work was deemed to satisfy the substantive requirements of WAC 173-340 and is consistent with the remedial actions under this Order.

## VI. ECOLOGY DETERMINATIONS

A. PLP is an "owner or operator" as defined in RCW 70.105D.020(17) of a "facility" as defined in RCW 70.105D.020(5).

B. Based upon all factors known to Ecology, a "release" or "threatened release" of "hazardous substance(s)" as defined in RCW 70.105D.020(25) and RCW 70.105D.020(10), respectively, has occurred at the Site.

C. Based upon credible evidence, Ecology issued a PLP status letter to the Port dated March 29, 2013, pursuant to RCW 70.105D.040, -.020(21) and WAC 173-340-500. By letter dated April 2, 2013, the Port voluntarily waived its rights to notice and comment and accepted Ecology's determination that the Port is a PLP under RCW 70.105D.040.

D. Pursuant to RCW 70.105D.030(1) and -.050(1), Ecology may require PLPs to investigate or conduct other remedial actions with respect to any release or threatened release of hazardous substances, whenever it believes such action to be in the public interest. Based on the foregoing facts, Ecology believes the remedial actions required by this Order are in the public interest.

E. Under WAC 173-340-430, an interim action is a remedial action that is technically necessary to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance, that corrects a problem that may become substantially worse or cost substantially more to address if the remedial action is delayed, or that is needed to provide for completion of a Site hazard assessment, remedial investigation/feasibility study or design of a cleanup action.

F. Ecology hereby incorporates into this Order the previous remedial actions described in Section V.F. Reimbursement for specific project tasks under a grant agreement with Ecology is contingent upon a determination by Ecology's Toxics Cleanup Program that the work performed complies with the substantive requirements of Chapter 173-340 WAC and is consistent with the remedial action required under this Order. The costs associated with Ecology's determinations on the past independent remedial actions described in Section V.F are recoverable under this Order.

## VII. WORK TO BE PERFORMED

Based on the Findings of Fact and Ecology Determinations, it is hereby ordered that the Port take the following remedial actions at the Site and that these actions be conducted in accordance with Chapter 173-340 WAC unless otherwise specifically provided for herein:

A. Within one hundred and twenty (120) days of the finalizing the Cleanup Action Plan, the Port will submit a draft Engineering Design Report describing detailed designs for the selected remedy for Ecology's approval. The proposed remedy includes removal and proper disposal of pond water, consolidation of impacted material in the log pond, and then backfilling with non-impacted and imported backfill. The log pond, mill area and aggregate recycling area will be capped with at least two (2) feet of clean, imported backfill, including a geotextile demarcation layer. Ecology comments will be submitted to the Port within sixty (60) days of receipt of draft Engineering Design Report. The Port will finalize Engineering Design Report within thirty (30) days of receipt of Ecology's comments and submit to Ecology.

B. Groundwater monitoring will be performed according to the schedule and as described in the Cleanup Action Plan.

C. Data submittal reports will be submitted to Ecology within thirty (30) days of receipt by the Port of all final validated environmental data.

D. A draft Remedial Action Report will be submitted to Ecology thirty (30) days following receipt by the Port of validated confirmation soil samples. Ecology comments will be submitted to the Port within sixty (60) days of receipt of draft Remedial Action Report. The Port will finalize Remedial Action Report within thirty (30) days of receipt of Ecology's comments and submit to Ecology.

E. Within thirty (30) days of finalization of the Remedial Action Report, the Port shall submit a draft Soil Management Plan for Ecology review. The draft Soil Management and Cap Maintenance Plan will describe management and maintenance actions to be performed by the Port. Ecology will submit comments to the Port within thirty (30) days of receipt of draft Soil Management and Cap Maintenance Plan. The Port will finalize Soil Management and Cap

Maintenance Plan within twenty (20) days of receipt of Ecology comments. Once approved by Ecology, this report becomes an integral and enforceable part of this Order.

F. Within thirty days (30) days from completion of the final Soil Management and Cap Maintenance Plan, the Port will submit an environmental covenant. An environmental covenant will be recorded by the Port for the Site to restrict future use of the Site. Ecology must approve this deliverable within thirty (30) days of receipt, and once approved by Ecology, this report becomes an integral and enforceable part of this Order.

G. If, at any time after the first exchange of comments on drafts, Ecology determines that insufficient progress is being made in the preparation of any of the deliverables required by this Section, Ecology may complete and issue the final deliverable.

## VIII. TERMS AND CONDITIONS OF ORDER

### A. Public Notice

RCW 70.105D.030(2)(a) requires that, at a minimum, this Order be subject to concurrent public notice. Ecology shall be responsible for providing such public notice and reserves the right to modify or withdraw any provisions of this Order should public comment disclose facts or considerations which indicate to Ecology that this Order is inadequate or improper in any respect.

### B. Remedial Action Costs

The Port shall pay to Ecology costs incurred by Ecology pursuant to this Order and consistent with WAC 173-340-550(2) and billed to the Port. These costs shall include work performed by Ecology or its contractors for, or on, the Site under Chapter 70.105D RCW, including remedial actions and Order preparation, negotiation, oversight, and administration. These costs shall include work performed subsequent to the issuance of this Order. Ecology's costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2). For all costs incurred subsequent to effective date of this agreed order, the Port shall pay the required amount within thirty (30) days of receiving from Ecology an

itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general statement of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Pursuant to WAC 173-340-550(4), failure to pay Ecology's costs within ninety (90) days of receipt of the itemized statement of costs will result in interest charges at the rate of twelve percent (12%) per annum, compounded monthly.

In addition to other available relief, pursuant to RCW 19.16.500, Ecology may utilize a collection agency and/or, pursuant to RCW 70.105D.055, file a lien against real property subject to the remedial actions to recover unreimbursed remedial action costs.

**C. Implementation of Remedial Action**

If Ecology determines that the Port has failed without good cause to implement the remedial action, in whole or in part, Ecology may, after notice to the Port, perform any or all portions of the remedial action that remain incomplete. If Ecology performs all or portions of the remedial action because of the Port's failure to comply with its obligations under this Order, the Port shall reimburse Ecology for the costs of doing such work in accordance with Section VIII. B. (Remedial Action Costs), provided that the Port is not obligated under this Section to reimburse Ecology for costs incurred for work inconsistent with or beyond the scope of this Order. Except where necessary to abate an emergency situation, the Port shall not perform any remedial actions at the Site outside those remedial actions required.

**D. Designated Project Coordinators**

The project coordinator for Ecology is:

Guy Barrett, LHG
PO Box 47775
Olympia, WA 98504
360-407-7115

The project coordinator for the Port is:

Alan Hughes
Maul Foster & Alongi, Inc.
7223 NE Hazel Dell Avenue, Suite B
Vancouver, Washington 98665
360-433-0217

Each project coordinator shall be responsible for overseeing the implementation of this Order. Ecology's project coordinator will be Ecology's designated representative for the Site. To the maximum extent possible, communications between Ecology and the Port, and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Order shall be directed through the project coordinators. The project coordinators may designate, in writing, working level staff contacts for all or portions of the implementation of the work to be performed required by this Order.

Any Party may change its respective project coordinator. Written notification shall be given to the other Party at least ten (10) calendar days prior to the change.

**E. Performance**

All geologic and hydrogeologic work performed pursuant to this Order shall be under the supervision and direction of a geologist licensed in the State of Washington or under the direct supervision of an engineer registered in the State of Washington, except as otherwise provided for by Chapters 18.220 and 18.43 RCW.

All engineering work performed pursuant to this Order shall be under the direct supervision of a professional engineer registered in the State of Washington, except as otherwise provided for by RCW 18.43.130.

All construction work performed pursuant to this Order shall be under the direct supervision of a professional engineer or a qualified technician under the direct supervision of a professional engineer. The professional engineer must be registered in the State of Washington, except as otherwise provided for by RCW 18.43.130.

Any documents submitted containing geologic, hydrologic or engineering work shall be under the seal of an appropriately licensed professional as required by Chapter 18.220 RCW or RCW 18.43.130.

The Port shall notify Ecology in writing of the identity of any engineer(s) and geologist(s), contractor(s) and subcontractor(s), and others to be used in carrying out the terms of this Order, in advance of their involvement at the Site.

**F. Access**

Ecology or any Ecology authorized representative shall have the full authority to enter and freely move about all property at the Site that the Port either owns, controls, or has access rights to at all reasonable times for the purposes of, *inter alia*: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Order; reviewing the Port's progress in carrying out the terms of this Order; conducting such tests or collecting such samples as Ecology may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Order; and verifying the data submitted to Ecology by the Port. The Port shall make all reasonable efforts to secure access rights for those properties within the Site not owned or controlled by the Port where remedial activities or investigations will be performed pursuant to this Order. Ecology or any Ecology authorized representative shall give reasonable notice before entering any Site property owned or controlled by the Port unless an emergency prevents such notice. All persons who access the Site pursuant to this Section shall comply with any applicable Health and Safety Plan(s). Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of Site property access.

**G. Sampling, Data Submittal, and Availability**

With respect to the implementation of this Order, the Port shall make the results of all sampling, laboratory reports, and/or test results generated by it or on its behalf available to Ecology. Pursuant to WAC 173-340-840(5), all sampling data shall be submitted to Ecology in both printed and electronic formats in accordance with Section VII (Work to be Performed), Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any subsequent procedures specified by Ecology for data submittal.

If requested by Ecology, the Port shall allow Ecology and/or its authorized representative to take split or duplicate samples of any samples collected by the Port pursuant to implementation of this Order. The Port shall notify Ecology seven (7) days in advance of any sample collection or work activity at the Site. Ecology shall, upon request, allow the Port and/or

its authorized representative to take split or duplicate samples of any samples collected by Ecology pursuant to the implementation of this Order, provided that doing so does not interfere with Ecology's sampling. Without limitation on Ecology's rights under Section VIII. (Access), Ecology shall notify the Port prior to any sample collection activity unless an emergency prevents such notice.

In accordance with WAC 173-340-830(2)(a), all hazardous substance analyses shall be conducted by a laboratory accredited under Chapter 173-50 WAC for the specific analyses to be conducted, unless otherwise approved by Ecology.

**H. Public Participation**

A Public Participation Plan is required for this Site. Ecology shall review any existing Public Participation Plan to determine its continued appropriateness and whether it requires amendment, or if no plan exists, Ecology shall develop a Public Participation Plan alone or in conjunction with the Port.

Ecology shall maintain the responsibility for public participation at the Site. However, the Port shall cooperate with Ecology, and shall:

1. If agreed to by Ecology, develop appropriate mailing list, prepare drafts of public notices and fact sheets at important stages of the remedial action, such as the submission of work plans, remedial investigation/feasibility study reports, cleanup action plans, and engineering design reports. As appropriate, Ecology will edit, finalize, and distribute such fact sheets and prepare and distribute public notices of Ecology's presentations and meetings.

2. Notify Ecology's project coordinator prior to the preparation of all press releases and fact sheets, and before major meetings with the interested public and local governments where this remediation is the primary subject of the meeting This notification provision shall not apply to such things as commission meetings and routine community outreach, such as speeches to civic groups. Likewise, Ecology shall notify the Port prior to the issuance of all press releases and fact sheets, and before major meetings with the interested public and local governments. For all press releases, fact sheets, meetings, and other outreach efforts by the Port that do not receive

prior Ecology approval, the Port shall clearly indicate to its audience that the press release, fact sheet, meeting, or other outreach effort was not sponsored or endorsed by Ecology.

3. When requested by Ecology, participate in public presentations on the progress of the remedial action at the Site. Participation may be through attendance at public meetings to assist in answering questions or as a presenter.

4. When requested by Ecology, arrange and/or continue information repositories to be located at the following locations:

a. **Camas Library**
625 NE 4th Avenue
Camas WA 98607
360.834.4692

b. **Washougal Community Library**
1661 C Street
Washougal, WA 98671
360.835.5393

c. Ecology's **Southwest** Regional Office
**300 Desmond Drive**
**Lacey, WA 98504**

At a minimum, copies of all public notices, fact sheets, and documents relating to public comment periods shall be promptly placed in these repositories. A copy of all documents related to this Site shall be maintained in the repository at Ecology's Southwest Regional Office in Olympia, Washington.

## I. Retention of Records

During the pendency of this Order, and for ten (10) years from the date of completion of work performed pursuant to this Order, the Port shall preserve all records, reports, documents, and underlying data in its possession relevant to the implementation of this Order and shall insert a similar record retention requirement into all contracts with project contractors and subcontractors. Upon request of Ecology, the Port shall make all records available to Ecology and allow access for review within a reasonable time.

**J. Resolution of Disputes**

1. In the event a dispute arises as to an approval, disapproval, proposed change, or other decision or action by Ecology's project coordinator, or an itemized billing statement under Section VIII. (Remedial Action Costs), the Parties shall utilize the dispute resolution procedure set forth below.

a. Upon receipt of Ecology's project coordinator's written decision or the itemized billing statement, the Port has fourteen (14) days within which to notify Ecology's project coordinator in writing of its objection to the decision or itemized statement.

b. The Parties' project coordinators shall then confer in an effort to resolve the dispute. If the project coordinators cannot resolve the dispute within fourteen (14) days, Ecology's project coordinator shall issue a written decision.

c. The Port may then request regional management review of the decision. This request shall be submitted in writing to the Southwest Region Toxics Cleanup Section Manager within seven (7) days of receipt of Ecology's project coordinator's written decision.

d. The Section Manager shall conduct a review of the dispute and shall endeavor to issue a written decision regarding the dispute within thirty (30) days of the Port's request for review. The Section Manager's decision shall be Ecology's final decision on the disputed matter.

2. The Parties agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used.

3. Implementation of these dispute resolution procedures shall not provide a basis for delay of any activities required in this Order, unless Ecology agrees in writing to a schedule extension.

**K. Extension of Schedule**

1. An extension of schedule shall be granted only when a request for an extension is submitted in a timely fashion, generally at least thirty (30) days prior to expiration of the

deadline for which the extension is requested, and good cause exists for granting the extension. All extensions shall be requested in writing. The request shall specify:

a. The deadline that is sought to be extended;

b. The length of the extension sought;

c. The reason(s) for the extension; and

d. Any related deadline or schedule that would be affected if the extension were granted.

2. The burden shall be on the Port to demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension. Good cause may include, but may not be limited to:

a. Circumstances beyond the reasonable control and despite the due diligence of the Port including delays caused by unrelated third parties or Ecology, such as (but not limited to) delays by Ecology in reviewing, approving, or modifying documents submitted by the Port;

b. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or other unavoidable casualty; or

c. Endangerment as described in Section VIII. M. (Endangerment).

However, neither increased costs of performance of the terms of this Order nor changed economic circumstances shall be considered circumstances beyond the reasonable control of the Port.

3. Ecology shall act upon any written request for extension in a timely fashion. Ecology shall give the Port written notification of any extensions granted pursuant to this Order. A requested extension shall not be effective until approved by Ecology. Unless the extension is a substantial change, it shall not be necessary to amend this Order pursuant to Section VIII. L. (Amendment of Order) when a schedule extension is granted.

4. An extension shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. Ecology may grant schedule extensions exceeding ninety (90) days only as a result of:

a. Delays in the issuance of a necessary permit which was applied for in a timely manner;

b. Other circumstances deemed exceptional or extraordinary by Ecology; or

c. Endangerment as described in Section VIII. M. (Endangerment).

**L. Amendment of Order**

The project coordinators may verbally agree to minor changes to the work to be performed without formally amending this Order. Minor changes will be documented in writing by Ecology within seven (7) days of verbal agreement.

Except as provided in Section VIII. N. (Reservation of Rights), substantial changes to the work to be performed shall require formal amendment of this Order. This Order may only be formally amended by the written consent of both Ecology and the Port. The Port shall submit a written request for amendment to Ecology for approval. Ecology shall indicate its approval or disapproval in writing and in a timely manner after the written request for amendment is received. If the amendment to this Order represents a substantial change, Ecology will provide public notice and opportunity to comment. Reasons for the disapproval of a proposed amendment to this Order shall be stated in writing. If Ecology does not agree to a proposed amendment, the disagreement may be addressed through the dispute resolution procedures described in Section VIII. J. (Resolution of Disputes).

**M. Endangerment**

In the event Ecology determines that any activity being performed at the Site is creating or has the potential to create a danger to human health or the environment on or surrounding the Site, Ecology may direct the Port to cease such activities for such period of time as it deems necessary to abate the danger. The Port shall immediately comply with such direction.

In the event the Port determines that any activity being performed at the Site is creating or has the potential to create a danger to human health or the environment, the Port may cease such activities. The Port shall notify Ecology's project coordinator as soon as possible, but no later than twenty-four (24) hours after making such determination or ceasing such activities. Upon Ecology's direction the Port shall provide Ecology with documentation of the basis for the determination or cessation of such activities. If Ecology disagrees with the Port's cessation of activities, it may direct the Port to resume such activities.

If Ecology concurs with or orders a work stoppage pursuant to this Section, the Port's obligations with respect to the ceased activities shall be suspended until Ecology determines the danger is abated, and the time for performance of such activities, as well as the time for any other work dependent upon such activities, shall be extended in accordance with Section VIII. K. (Extension of Schedule) for such period of time as Ecology determines is reasonable under the circumstances.

Nothing in this Order shall limit the authority of Ecology, its employees, agents, or contractors to take or require appropriate action in the event of an emergency.

**N. Reservation of Rights**

This Order is not a settlement under Chapter 70.105D RCW. Ecology's signature on this Order in no way constitutes a covenant not to sue or a compromise of any of Ecology's rights or authority. Ecology will not, however, bring an action against the Port to recover remedial action costs paid to and received by Ecology under this Order. In addition, Ecology will not take additional enforcement actions against the Port regarding remedial actions required by this Order, provided the Port complies with this Order.

Ecology nevertheless reserves its rights under Chapter 70.105D RCW, including the right to require additional or different remedial actions at the Site should it deem such actions necessary to protect human health and the environment, and to issue orders requiring such remedial actions. Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural resources resulting from the release or threatened release of hazardous substances at

the Site. Likewise, The Port reserves its rights under Chapter 70.105D RCW, including the right to contest any Ecology direction for additional or different remedial actions at the Site, any orders requiring such remedial actions and any claim regarding the injury to, destruction of, or loss of natural resources resulting from the release or threatened release of hazardous substances at the Site.

**O. Transfer of Interest in Property**

No voluntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by The Port without provision for continued implementation of all requirements of this Order and implementation of any remedial actions found to be necessary as a result of this Order.

Prior to the Port's transfer of any interest in all or any portion of the Site, and during the effective period of this Order, the Port shall provide a copy of this Order to any prospective purchaser, lessee, transferee, assignee, or other successor in said interest; and, at least thirty (30) days prior to any transfer, the Port shall notify Ecology of said transfer. Upon transfer of any interest, the Port shall restrict uses and activities to those consistent with this Order and notify all transferees of the restrictions on the use of the property.

**P. Compliance with Applicable Laws**

1. All actions carried out by the Port pursuant to this Order shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits, except as provided in RCW 70.105D.090. At this time, no federal, state or local requirements have been identified as being applicable to the actions required by this Order.

2. Pursuant to RCW 70.105D.090(1), the Port is exempt from the procedural requirements of Chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 RCW and of any laws requiring or authorizing local government permits or approvals. However, the Port shall comply with the substantive requirements of such permits or approvals. At this time, no state or local

permits or approvals have been identified as being applicable but procedurally exempt under this Section.

3. The Port has a continuing obligation to determine whether additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Order. In the event either Ecology or the Port determines that additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Order, it shall promptly notify the other Party of its determination. Ecology shall determine whether Ecology or the Port shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, the Port shall promptly consult with the appropriate state and/or local agencies and provide Ecology with written documentation from those agencies of the substantive requirements those agencies believe are applicable to the remedial action. Ecology shall make the final determination on the additional substantive requirements that must be met by the Port and on how the Port must meet those requirements. Ecology shall inform the Port in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Order. The Port shall not begin or continue the remedial action potentially subject to the additional requirements until Ecology makes its final determination.

4. Pursuant to RCW 70.105D.090(2), in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70.105D.090(1) would result in the loss of approval from a federal agency that is necessary for the State to administer any federal law, the exemption shall not apply and the Port shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70.105D.090(1), including any requirements to obtain permits.

**Q. Land Use Restrictions**

The Port shall record a Restrictive Covenant with the office of the Clark County Auditor within thirty (30) days of the completion of the remedial action. The Restrictive Covenant shall

restrict future uses of the Site. The Port shall provide Ecology with a copy of the recorded Restrictive Covenant within thirty (30) days of the recording date.

**R. Periodic Review**

As remedial action, including groundwater monitoring, continues at the Site, the Parties agree to review the progress of remedial action at the Site, and to review the data accumulated as a result of monitoring the Site as often as is necessary and appropriate under the circumstances. At least every five (5) years after the initiation of cleanup action at the Site the Parties shall meet to discuss the status of the Site and the need, if any, for further remedial action at the Site. At least ninety (90) days prior to each periodic review, the Port shall submit a report to Ecology that documents whether human health and the environment are being protected based on the factors set forth in WAC 173-340-420(4). Ecology reserves the right to require further remedial action at the Site under appropriate circumstances in the form of additional orders. The Port reserves the right to contest the issuance of these additional orders. This provision shall remain in effect for the duration of this Order.

**S. Indemnification**

To the extent permitted by law, the Port agrees to indemnify and save and hold the State of Washington, its employees, and agents harmless from any and all claims or causes of action for death or injuries to persons or for loss or damage to property to the extent arising from or on account of acts or omissions of the Port, its officers, employees, agents, or contractors in entering into and implementing this Order. However, the Port shall not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action to the extent arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State, in entering into or implementing this Order.

## IX. SATISFACTION OF ORDER

The provisions of this Order shall be deemed satisfied upon the Port's receipt of written notification from Ecology that the Port has completed the remedial activity required by this

Order, as amended by any modifications, and that the Port has complied with all other provisions of this Agreed Order.

## X. ENFORCEMENT

Pursuant to RCW 70.105D.050, this Order may be enforced as follows:

A. The Attorney General may bring an action to enforce this Order in a state or federal court.

B. The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for investigative and remedial actions and orders related to the Site.

C. In the event the Port refuses, without sufficient cause, to comply with any term of this Order, the Port will be liable for:

a. Up to three (3) times the amount of any costs incurred by the State of Washington as a result of its refusal to comply; and

b. Civil penalties of up to twenty-five thousand dollars ($25,000) per day for each day it refuses to comply.

D. This Order is not appealable to the Washington Pollution Control Hearings Board. This Order may be reviewed only as provided under RCW 70.105D.060.

Effective date of this Order: June 28, 2013

**THE PORT**

David Ripp
Executive Director
The Port
24 South 'A' Street
Washougal, WA 98671
Telephone: 360-835-2196, *101

**STATE OF WASHINGTON,
DEPARTMENT OF ECOLOGY**

Rebecca S. Lawson, P.E., LHG
Section Manager
Toxics Cleanup Program
Southwest Regional Office
Telephone: 360-407-6241

**Exhibit A.**


# SITE DIAGRAM

Port of Camas-Washougal
Washougal, Washington

## Legend

Site Boundary

0 125 250
Feet

Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online/Bing Maps; site boundary is approximate and based on legal description provided by KC Development (Sept. 10, 2012)

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

Path: X:\0229.04\08_Remedial_Action\Projects\Site Diagram 8x11.mxd
Print Date: 5/17/2013
Approved By: ahughes
Produced By: rmaronn
Project: 0229.04.03

**Exhibit B.**

**Land Records**
Property Info Center
GIS MapsOnline
Subdivision Browser
Quarter Sections
Auditor Records
Parcel Alteration Forms

**Demographics**
Socioeconomic Data
Census 2010 Profiles

**GIS Programs**
Index of Atlas Maps
GIS Metadata
GIS Training
Annexation Tracker

**Storefront**
Digital Data
Applications
Publications
Printed Maps
Custom Maps
Photography
Developer's Packet

**Reports**
Vacant Lands

**Contacts**
Staff List
Office Location

# Clark County Property Information

## Account Summary

**Account No:** 73134153
**Property Type:** Real
**Property Status:** Active **Tax Status:** TOTAL EXEMPTION
**Site Address:** 335 S A ST, WASHOUGAL, 98671 (Situs Addresses)
**Abbreviated Legal Description:** #153, #154, #178 DAVID C. PARKER DLC 5.47A

Account | Building | Environmental | Taxes | Documents | Permits | Sales Search | Maps Online | New Search

**Property Owner**
PORT OF CAMAS - WASHOUGAL

**Owner Mailing Address**
24 SOUTH A STREET
WASHOUGAL WA , 98671
US

**Property Location Address**
335 S A ST, WASHOUGAL, 98671
Google Maps Street Viewer
Bing Maps Birds Eye Viewer

### Administrative Data Info...

| | |
|---|---|
| Zoning Designation | Codes... CH |
| Zoning Overlay(s) | none |
| Comprehensive Plan | GC |
| Comp. Plan Overlay(s) | none |
| Census Tract | 415.00 |
| Jurisdiction | Washougal |
| Fire District | Washougal |
| Park District | District 0 |
| School District | Washougal |
| Elementary | Hathaway |
| Middle School | Jemtegaard |
| High School | Washougal |
| Sewer District | Washougal |
| Water District | Washougal |
| Neighborhood | n/a |
| Section-Township-Range | SE 1/4,S12,T1N,R3E image: .TIF or .PDF |
| Section-Township-Range | SW 1/4,S07,T1N,R4E image: .TIF or .PDF |
| Section-Township-Range | NE 1/4,S13,T1N,R3E image: .TIF or .PDF |
| Urban Growth Area | Washougal |
| C-Tran Benefit Area | Yes |
| School Impact Fee | Washougal |
| Transportation Impact Fee | Washougal |
| Transportation Analysis Zone | 427 |
| Waste Connections Garbage Collection Day | Monday |
| CPU Lighting Utility District | 0 |
| Burning Allowed | No |
| Wildland Urban Interface/Intermix | No Mapping Indicators |

### Land Data

| | |
|---|---|
| Clark County Road Atlas | page 3 |
| Approximate Area Info... | 238,273 sq. ft. 5.47 acres |
| Subdivision | no data |
| Survey | 042200 |

### Sales History

| | |
|---|---|
| Sale Date | 11/16/2012 |
| Document Type | CONT |
| Excise Number | 685603 |
| Document Number | 4912867 |
| Sale Amount | $5,944,503.00 |
| Sale Date | 11/16/2012 |
| Document Type | D-FF |
| Excise Number | 685603 |
| Document Number | 4912869 |
| Sale Amount | |
| Sale Date | 11/15/2012 |
| Document Type | D-B&S |
| Excise Number | 685607 |
| Document Number | 4912870 |
| Sale Amount | $6,070,000.00 |
| Sale Date | 10/02/2012 |
| Document Type | BLA |
| Excise Number | 685602 |
| Document Number | 4912866 |
| Sale Amount | |
| Sale Date | 08/10/2010 |
| Document Type | D-WARR |
| Excise Number | 657626 |
| Document Number | |
| Sale Amount | |
| Sale Date | 11/30/2005 |
| Document Type | D-QCD |

### Assessment Data Info...

2012 Values for 2013 Taxes

Market Value as of January 1, 2012

| | |
|---|---|
| Land Value | $712,300.00 |
| Building Value | $0.00 |
| Total Property | $712,300.00 |

Taxable Value

| | |
|---|---|
| Total | $0.00 |

General

| | |
|---|---|
| Re-valuation Cycle | 5 |
| Assessor Neighborhood | 9860 |

# Clark County Property Information

## Account Summary

**Account No:** 73134179
**Property Type:** Real
**Property Status:** Active **Tax Status:** TOTAL EXEMPTION
**Site Address:** (Situs Addresses)
**Abbreviated Legal Description:** #180 D. C. PARKER DLC 7.76A



**Property Owner**
PORT OF CAMAS - WASHOUGAL

**Owner Mailing Address**
24 SOUTH A STREET
WASHOUGAL WA , 98671
US

**Property Location Address**
Google Maps Street Viewer
Bing Maps Birds Eye Viewer

### Administrative Data

Info...

| | |
|---|---|
| Zoning Designation | Codes... CH |
| Zoning Overlay(s) | none |
| Comprehensive Plan | GC |
| | UL |
| Comp. Plan Overlay(s) | none |
| Census Tract | 415.00 |
| Jurisdiction | Washougal |
| Fire District | Washougal |
| Park District | District 0 |
| School District | Washougal |
| Elementary | Hathaway |
| Middle School | Jemtegaard |
| High School | Washougal |
| Sewer District | Washougal |
| Water District | Washougal |
| Neighborhood | n/a |
| Section-Township-Range | NE 1/4,S13,T1N,R3E |
| | Image: .TIF or .PDF |
| Section-Township-Range | SE 1/4,S12,T1N,R3E |
| | Image: .TIF or .PDF |
| Urban Growth Area | Washougal |
| C-Tran Benefit Area | Yes |
| School Impact Fee | Washougal |
| Transportation Impact Fee | Washougal |
| Transportation Analysis Zone | 427 |
| Waste Connections | Monday |
| Garbage Collection Day | 0 |
| CPU Lighting Utility District | No |
| Burning Allowed | No Mapping Indicators |
| Wildland Urban Interface/Intermix | |

### Land Data

| | |
|---|---|
| Clark County Road Atlas | page 3 |
| Approximate Area Info... | 338,026 sq. ft. |
| | 7.76 acres |
| Subdivision | no data |
| Survey | 042200 |

### Sales History

| | |
|---|---|
| Sale Date | 11/16/2012 |
| Document Type | CONT |
| Excise Number | 685603 |
| Document Number | 4912867 |
| Sale Amount | $5,944,503.00 |
| Sale Date | 11/16/2012 |
| Document Type | D-FF |
| Excise Number | 685603 |
| Document Number | 4912869 |
| Sale Amount | |
| Sale Date | 11/15/2012 |
| Document Type | D-B&S |
| Excise Number | 685607 |
| Document Number | 4912870 |
| Sale Amount | $6,070,000.00 |
| Sale Date | 10/02/2012 |
| Document Type | BLA |
| Excise Number | 685602 |
| Document Number | 4912866 |
| Sale Amount | |
| Sale Date | 03/01/1999 |
| Document Type | D-QCD |
| Excise Number | 444704 |
| Document Number | |
| Sale Amount | $0.00 |

### Assessment Data

Info...

**2012 Values for 2013 Taxes**
Market Value as of January 1, 2012

| | |
|---|---|
| Land Value | $1,010,400.00 |
| Building Value | $0.00 |
| Total Property | $1,010,400.00 |

Taxable Value

| | |
|---|---|
| Total | $0.00 |

**2011 Values for 2012 Taxes**
Market Value as of January 1, 2011

| | |
|---|---|
| Land Value | $1,124,700.00 |
| Building Value | $0.00 |
| Total Property | $1,124,700.00 |

Taxable Value

| | |
|---|---|
| Total | $0.00 |

General

| | |
|---|---|
| Re-valuation Cycle | 5 |
| Assessor Neighborhood | 9860 |

If you have questions concerning the data on this page, please contact the Clark County Assessor's Office. Main Phone: (360) 397-2391 , Email: asrgis@clark.wa.gov

Print Version | Create a .PDF Report |

[Legal Stuff]

Disclaimer

Clark County does not warrant the accuracy, reliability or timeliness of any information in this system, and shall not be held liable for losses caused by using this information. Portions of this information may not be current or accurate. Any person or entity who relies on any information obtained from this system, does so at their own risk.

RCW 42.56.070(9) prohibits releasing and/or using lists of individuals gathered from this site for commercial purposes.

**Exhibit C.**


# DRAFT CLEANUP ACTION PLAN

Hambleton Bros Log Yard
Washougal, WA

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May 2013
Washington State Department of Ecology
Toxics Cleanup Program
Southwest Regional Office
Lacey, WA

# TABLE OF CONTENTS

## LIST OF FIGURES



## LIST OF TABLES

# 1.0 INTRODUCTION

This report presents the Washington State Department of Ecology's (Ecology) proposed cleanup action for the Hambleton Bros Log Yard (Facility Site No. 4399598), located at 335 South A Street, Washougal, in Clark County, Washington (the Property) (see Figure 1). The approximate 13 acre Site, where contamination above cleanup levels (CULs) is present, lies within the approximate 25 acre Property boundary. This Cleanup Action Plan (CAP) is required as part of the Site cleanup process under the Model Toxics Control Act (MTCA), Ch. 70.105D Revised Code of Washington (RCW), implemented by Ecology. The cleanup action decision is based on the Focused Site Assessment Report (Maul Foster & Alongi, Inc. [MFA], 2012), Terrestrial Ecological Evaluation (MFA, 2013), and other historical investigation results.

This CAP outlines the following:

- The history of operations, ownership, and activities at the Site;
- The nature and extent of contamination;
- Cleanup levels (CULs) for the Site that are protective of human health and the environment;
- The selected remedial action for the Site; and
- Any compliance monitoring and institutional control requirements.

## 1.1 DECLARATION

Ecology has selected this remedy because it will be protective of human health and the environment. The selected remedy is consistent with the State of Washington's preference for permanent solutions to the maximum extent practicable and provides for adequate action to ensure effectiveness of the remedial action as stated in RCW 70.105D.030(1)(b).

## 1.2 APPLICABILITY

CULs specified in this CAP are applicable only to the Site. They were developed as a part of an overall remediation process under Ecology oversight using the authority of MTCA, and should not be considered as precedents for other sites.

## 1.3 ADMINISTRATIVE RECORD

The documents used to make the decisions discussed in this CAP are on file in the administrative record for the Site. Major documents are listed in the reference section. The entire administrative record for the Site is available for public review by appointment at Ecology's Southwest Regional Office, located at 300 Desmond Drive, Lacey, WA 98503-1274. The Focused Site Assessment Report (MFA, 2012) captures the most recent understanding of the Site and summarizes the results of earlier environmental investigations conducted at the Site.

### 1.4 CLEANUP PROCESS

Cleanup conducted under the MTCA process requires the preparation of specific documents either by the Potentially Liable Party (PLP) or by Ecology. These procedural tasks and resulting documents, along with the MTCA section that requires their completion, are listed below, with a brief description of each task.

- Remedial Investigation and Feasibility Study (RI/FS)—Washington Administrative Code (WAC) 173-340-350
  The RI/FS documents the investigations and evaluations conducted at the Site from the discovery phase to the RI/FS report. The RI collects and presents information on the nature and extent of contamination, and the risks posed by the contamination. The FS presents and evaluates site cleanup alternatives and proposes a preferred cleanup alternative. The document is prepared by the PLP, is approved by Ecology, and undergoes public comment.
- CAP—WAC 173-340-380
  The CAP sets CULs and standards for the Site and selects the cleanup actions intended to achieve the CULs. The document is prepared by Ecology and undergoes public comment.
- Engineering Design Report, Construction Plans and Specifications—WAC 173-340-400
  The report outlines details of the selected cleanup action, including any engineered systems and design components from the CAP. These may include construction plans and specifications with technical drawings. The document is prepared by the PLP and approved by Ecology. Public comment is optional.
- Operation and Maintenance Plan(s)—WAC 173-340-400
  These plans summarize the requirements for inspection and maintenance of cleanup actions, including any actions required for operation and maintenance of equipment, structures, or other remedial systems. The document is prepared by the PLP and approved by Ecology.
- Cleanup Action Report—WAC 173-340-400
  The Cleanup Action Report is completed following implementation of the cleanup action, and provides details on the cleanup activities along with documentation of adherence to or variance from the CAP. The document is prepared by the PLP and approved by Ecology.
- Compliance Monitoring Plan—WAC 173-340-410
  Compliance Monitoring Plans provide details on the completion of monitoring activities required to ensure that the cleanup action is performing as intended. It is prepared by the PLP and approved by Ecology.

## 2.0 SITE CONDITIONS

### 2.1 PROPERTY DESCRIPTION AND HISTORY

The Property is currently zoned as Highway Commercial (CH). The Property is located in sections 12 and 13 of township 1 north and range 3 east, and section 7 of township 1 north and range 3 east of the Willamette Meridian (see Figure 1). The Property is approximately 1,000 feet long (north-south) and 1,600 feet wide (east-west). The Property is bordered by State Route 14 to the north and South 2nd Street to the west, with an undeveloped vacant lot to the east. The Columbia River borders the Property to the south. Adjoining properties to the west of 2nd Street

are a commercial hotel and a vacant building slated for commercial use. Properties located north of State Route 14 are in mixed commercial, residential, and light industrial use.

The Property was occupied by a lumber mill between approximately 1948 and 2010. The lumber mill operations expanded over the years to occupy most of the Property. The Hambleton Lumber Company originally leased the land from the Port of Camas-Washougal in 1953 and eventually bought the Property in the 1970s. The company operated in a niche market, with approximately 75 percent of the mill production in large-dimension green Douglas fir, hemlock, and spruce timbers. Historically, the Property was used as a lumber mill; activities included log storage, sawmill, planer, lumber storage and shipping, and other operations ancillary to mill operations.

At one time, the Property contained an equipment mechanical shop, a chemical storage shed, a single-family residence, a mill, a debarker, and a planer building. Wood-treating activities were not conducted on the Property. The debarker burned to the ground in 2009. Because of poor economic conditions, the mill closed in 2010. All structures have been removed from the Property.

There have been no structures on the Property since demolition of the lumber mill, shop, office, chemical storage shed, and planer building (see Figure 2). Demolition of these structures was generally completed in November 2011. Concrete foundations from the demolished structures remain. The Property is surfaced with asphalt and gravel; however, areas of the Property are covered in woody debris from log storage.

### 2.1.1 Topography and Climate

The Property is generally flat, with a slight slope to the south, toward the Columbia River. The Columbia River is at the Property's southern boundary, at the bottom of an approximately 32-foot downward slope.

According to gauges in Washougal, rainfall averages 51 inches annually, with average summer temperatures in the mid-70s (degrees Fahrenheit) and average winter temperatures in the mid-30s (degrees Fahrenheit) (WRCC, 2013).

### 2.1.2 Geology and Hydrogeology

The Property is located on Quaternary alluvial deposits composed of coarse-grained outwash deposits (gravel, cobbles, boulders) from the Missoula Floods. These deposits were on boring and test pit logs at depths of up to 45 feet below ground surface (bgs) (CEC, 2009). The boring logs also indicated that local fill deposits of up to 6 feet bgs were observed throughout the Property. These fill deposits were at times intermixed with the local material. The depth to groundwater occurs between approximately 20 and 37 feet bgs, and groundwater flows toward and is assumed to discharge to the Columbia River.

## 3.0 ENVIRONMENTAL CONDITIONS

Site investigations and interim actions have taken place on the Property since 2002. In 2011 a Focused Site Assessment conducted to assess the nature and extent of contamination in soil, sediment, and/or groundwater identified petroleum hydrocarbons (diesel- and residual-range

organics), metals (lead and mercury), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs; i.e., methylene chloride), and/or carcinogenic polycyclic aromatic hydrocarbons (cPAHs) as indicator hazardous substances (IHSs) on the Site. The nature and extent of contamination are summarized below; the Focused Site Assessment report (MFA, 2012) provides additional details.

## 3.1 SOIL

Soil concentrations were compared with MTCA Method A CULs. Detected chemicals that do not have MTCA Method A CULs were compared to MTCA Method B CULs. Also natural background concentrations where used for comparison when the background value exceeded the MTCA CULs (i.e., chromium). This evaluation indicated that most of the Property was not impacted above CULs or background concentrations except for the log pond and mill area, the aggregate recycling area, and a soil stockpile (located in the aggregate recycling area) (see Figure 3). Petroleum hydrocarbons, metals (i.e., arsenic, lead, and mercury), cPAHs, and PCBs were detected above CULs in soil samples and are considered IHSs. Figure 3 shows the sample locations and which compounds exceeded CULs or background concentrations and at what locations.

Surface soil (approximately the top 2 feet) around the log pond and mill area shows exceedances of the above-mentioned IHSs. The soil impacts in the aggregate recycling area were detected at up to 4 feet bgs; however, because the vertical extent was not delineated, it is assumed that the impacts could extend to the depth of the fill in that area (approximately 7 feet bgs).

## 3.2 GROUNDWATER

Petroleum hydrocarbons and arsenic were the only chemicals/metal with concentrations above the Method A CUL. Petroleum hydrocarbons exceeded the CUL in only one of seven wells, i.e., MW-7 (see Figure 4).

Total arsenic was detected in MW-7 at 5.56 micrograms per liter (µg/L), which is slightly above the CUL of 5 µg/L. The sample was also analyzed for dissolved arsenic because the sample had high turbidity. Dissolved arsenic was detected at 4.15 µg/L, below the CUL. The discrepancy between the total and dissolved arsenic concentrations appears to be due to the elevated turbidity in the sample. The arsenic concentration in MW-7 appears to be the result natural background conditions and, as such, is not considered an IHS for groundwater

## 3.3 SURFACE WATER

Historical samples collected in 2006 indicated that IHSs could be present in log pond surface water at concentrations above CULs. The surface water samples contained detectable metals, petroleum hydrocarbons, volatile organic compounds (VOCs), and polycyclic aromatic hydrocarbons. As remedial actions are conducted the surface water will be removed and characterized for disposal.

### 3.4 SEDIMENT

Historically, two sediment samples were collected in the log pond. VOCs (i.e., methylene chloride) and petroleum hydrocarbon concentrations exceeded the MTCA Method A soil CULs (see Figure 5). The sampling indicated that impacts extended approximately 4 feet below the mud line in the log pond.

Four sediment samples collected from the Columbia River (see Figure 5) were compared to Ecology 2010 Freshwater Criteria. The samples were compared primarily to the Sediment Quality Standards and the Cleanup Screening Level Standard. If no values were available, the data were compared to the Ecology 2003 Freshwater Criteria lowest and second lowest apparent effects threshold (i.e., LAET and 2LAET, respectively). No sediment detections exceeded screening levels. Note that one of the sediment samples was collected just beyond the outfall for the Property.

## 4.0 CLEANUP STANDARDS

MTCA requires the establishment of cleanup standards for individual sites. The two primary components of cleanup standards are CULs and points of compliance (POCs). CULs determine the concentration at which a substance does not pose unacceptable risks to human health or the environment. All materials that exceed CULs are addressed through a remedy that prevents exposure to the material. POCs represent the locations on a site where CULs must be met.

### 4.1 TERRESTRIAL ECOLOGICAL EVALUATION

WAC 173-340-7490 requires that sites conduct a terrestrial ecological evaluation (TEE) to determine the potential effects of soil contamination on ecological receptors. The Site does not meet any of the exclusionary criteria. The Site also does not meet criteria for a simplified TEE. Therefore, the Site was evaluated using a site-specific TEE process.

Problem formulation involves:

- Selecting chemicals of ecological concern;
- Identifying complete exposure pathways; and
- Identifying current or potential future terrestrial ecological receptors of concern.

Chemicals detected in site soils (listed in the attached table) were compared to values in MTCA Table 749-3. Since the Site is a commercial property, only risks to wildlife need to be considered. Those chemicals detected at the Site and having wildlife ecological soil criteria were carried forward.

The evaluation of exposure pathways involves determining future site uses. Since the Site is under a brownfields planning grant, the expectation of site redevelopment is high. Plans currently call for a complete build-out of the Site, covering most site soils with buildings, maintained open space, or pavement. Therefore, where some areas of the Site would not have buildings or pavement, this condition would not be met. Exposure pathways would be through direct contact and ingestion by wildlife. These wildlife receptors would likely be ground-

dwelling wildlife along the river corridor. The TEE (MFA, 2013) concluded that the remedial action proposed for human health will also be protective of ecological receptors on the Site.

### 4.2 Site Cleanup Levels

The Focused Site Assessment and previous investigations have documented the presence of contamination in soil and groundwater at the Site. CULs will be developed for both of these media.

The Site is impacted mainly with petroleum hydrocarbons and their constituents. The impacts appear to be limited in extent. Therefore, Method A CULs for unrestricted land use are applied to soil and groundwater as the CULs for the Site (see Table 1). These CULs are calculated using reasonable maximum human health exposure assumptions with target risk levels set at the MTCA acceptable risk level.

### 4.3 Point of Compliance

The MTCA Cleanup Regulation defines the POC as the point or points where CULs shall be attained. Once CULs are met at the POC, a site is no longer considered a threat to human health or the environment.

WAC 173-340-740(6) gives the POC requirements for soil. For sites where CULs are based on the protection of groundwater, the POC is established in all soil throughout the site.

The soil POC is the depth bgs at which soil CULs shall be attained. The standard POC for Method A is soil within 15 feet of the ground surface throughout the entire site. This standard POC is applied to soil on the Property. As discussed below, impacts have been detected in surface soil to approximately 4 feet bgs.

The POC for groundwater is the entire water-bearing zone at the Site (WAC 173-340-720(8)(b)). A conditional POC may be established if it is not practicable to meet the CUL throughout the Site within a reasonable restoration time frame (WAC 173-340-720(8)(c)). The conditional POC for groundwater is located in MW-7 at the top of the bank, downgradient of the log pond, along the boundary with the Columbia River.

## 5.0 Cleanup Action Selection

### 5.1 Remedial Action Objectives

The remedial action objectives describe the actions necessary to protect human health and the environment through eliminating, reducing, or otherwise controlling risks posed through each exposure pathway and migration route. These objectives are developed by evaluating the characteristics of the contaminated media, the characteristics of the hazardous substances present, migration and exposure pathways, and potential receptor points.

Soil and groundwater have been contaminated as a result of past activities at the Site. People are typically exposed to contaminated soil via dermal contact, inhalation of soil particles, or incidental ingestion of soil; or to groundwater by direct contact or ingestion. Potential receptors

(i.e., those with potentially complete human health exposure pathways) include on-site commercial workers, on-site construction workers, and on-site recreationists.

The following remedial action objectives are intended to address these remaining risks:

- Prevent or minimize direct contact, inhalation, or ingestion of contaminated soil by humans or ecological receptors;
- Prevent or minimize direct contact or ingestion of contaminated groundwater by humans or ecological receptors.

## 5.2 CLEANUP ACTION ALTERNATIVES

Cleanup alternatives are evaluated as part of the Focused Site Assessment. The Focused Site Assessment included the evaluation of two options for soil and groundwater cleanup. The alternatives were scored and ranked using relevant criteria as described in WAC 173-340-360. Each of the considered alternatives includes one or more of the following remedial actions:

- Soil removal
- Surface water removal (from the former log pond)
- Engineered cap
- Institutional controls / restrictive covenant—including site management plan provisions

These remedial action options were combined to develop two alternatives, each intended to address all contaminated media at the Site. The following alternatives have been developed by Ecology, based on the alternatives proposed in the Focused Site Assessment prepared by MFA:

### 5.2.1 Alternative 1: Excavation and off-site disposal of contaminated soil and log pond sediment

This alternative is more conservative and more costly, and consists of the following elements:

- Remove (i.e., pump out) log pond liquid, characterize, and dispose of off site at a permitted disposal facility. For cost estimating purposes, the volume of liquid in the log pond is estimated to be approximately 330,000 gallons (the actual volume will vary, depending on the season and amount of precipitation occurring during the remedial action).
- Excavate impacted log pond sediment to 4 feet bgs (3,300 cubic yards), characterize, and dispose of off site at a permitted disposal facility. For cost estimating purposes and based on the sediment samples collected during the 2009 site investigation, the sediment is assumed to be nonhazardous and not special-listed waste, and disposal at a Subtitle D landfill is also assumed. Backfill log pond with clean, imported fill to existing ground surface and compact to 92 percent, based on the Modified Proctor Test (ASTM D-1557).
- Demolish concrete slab in mill area to facilitate excavation of underlying impacted soil. The slab is assumed to be reinforced and 12 inches thick. Excavate impacted soil to 2 feet bgs (930 cubic yards) and screen on site. The oversize, inert debris and rocks will be placed back in the excavation, while the material that passes through the screen will be characterized and

disposed of off site at a permitted disposal facility. For cost estimating purposes, 10 percent of the excavated material is assumed to be oversize and suitable for placement in the bottom of the remedial excavation. Based on soil samples collected, the soil is assumed to be nonhazardous and not special-listed waste, and disposal at a Subtitle D landfill is also assumed.

- Screen the impacted material stockpiled in the aggregate recycling area (approximately 500 cubic yards). The oversize, inert debris and rocks will be placed back in the excavation, while the material that passes through the screen will be characterized and disposed of off site at a permitted disposal facility. For cost estimating purposes, 10 percent of the excavated material is assumed to be oversize and suitable for placement in the bottom of the remedial excavation. Based on soil samples collected during the site investigation, the soil is assumed to be nonhazardous and not special-listed waste and may be disposed of at a Subtitle D Landfill.
- Excavate impacted soil to 7 feet bgs (4,870 cubic yards) and screen on site. The oversize, inert debris and rocks will be placed back in the excavation, while the material that passes through the screen will be characterized and disposed of off site at a permitted disposal facility. For cost estimating purposes, 10 percent of the excavated material is assumed to be oversize and suitable for placement in the bottom of the remedial excavation. Based on soil samples collected during the site investigation, the soil is assumed to be nonhazardous and not special-listed waste, and disposal at a Subtitle D landfill is also assumed.
- Employ a restrictive covenant prohibiting the use of groundwater beneath the Property as potable water.
- Groundwater monitoring at MW-7 on an 18-month schedule until groundwater CULs are achieved.

### 5.2.2 Alternative 2: Capping and institutional controls

This alternative is less costly than Alternative 1 and focuses on on-site soil management and capping. This alternative includes the following actions:

- Remove (i.e., pump out) log pond liquid, characterize, and dispose of off site at a permitted disposal facility. For cost estimating purposes, the volume of liquid in the log pond is estimated to be approximately 330,000 gallons (the actual volume will vary, depending on the season and the amount of precipitation occurring during the remedial action).
- Prior to consolidation of soil in the log pond, sediment samples will be collected and analyzed for methylene chloride which was historically detected above MTCA Method A CUL.
- Consolidate the impacted material stockpiled on site (500 cubic yards) in the log pond and backfill the log pond with unimpacted material stockpiled on site (2,840 cubic yards) and imported backfill (3,180 cubic yards).
- Place a soil cap over the log pond and mill area and aggregate recycling area with a minimum of 2 feet of clean, imported backfill. Soil cap would include a geotextile demarcation layer and placement of 4,340 cubic yards of clean soil.

- Implement institutional controls regarding future use of the Site through a restrictive covenant. A soil management and cap maintenance plan would be developed to outline procedures for maintaining the cap and handling impacted soils during potential future excavation. Employ a restrictive covenant prohibiting the use of groundwater beneath the Site as potable water. In addition, if methylene chloride is detected above MTCA Method A CULs then an institutional control will be required for any structure built over the log pond.
- Groundwater monitoring at MW-7 on an 18-month schedule until groundwater CULs are achieved.

## 5.3 REGULATORY REQUIREMENTS

The MTCA Cleanup Regulation sets forth the minimum requirements and procedures for selecting a cleanup action. A cleanup action must meet each of the minimum requirements specified in WAC 173-340-360(2), including certain threshold and other requirements. These requirements are outlined below.

### 5.3.1 Threshold Requirements

WAC 173-340-360(2)(a) requires that the cleanup action to:

- Protect human health and the environment;
- Comply with cleanup standards;
- Comply with applicable state and federal laws; and
- Provide for compliance monitoring.

### 5.3.2 Other Requirements

In addition, WAC 173-340-360(2)(b) states that the cleanup action shall:

- Use permanent solutions to the maximum extent practicable;
- Provide for a reasonable restoration time frame; and
- Consider public concerns.

WAC 173-340-360(3) describes the specific requirements and procedures for determining whether a cleanup action uses permanent solutions to the maximum extent practicable. A permanent solution is defined as one in which CULs can be met without further action being required at the Site other than the disposal of residue from the treatment of hazardous substances. To determine whether a cleanup action uses permanent solutions to the maximum extent practicable, a disproportionate cost analysis is conducted. This analysis compares the costs and benefits of the cleanup action alternatives and involves the consideration of several factors, including:

- Protectiveness;
- Permanent reduction of toxicity, mobility and volume;

- Cost;
- Long-term effectiveness;
- Short-term risk;
- Implementability; and
- Consideration of public concerns.

The comparison of benefits and costs may be quantitative, but will often be qualitative and require the use of best professional judgment.

WAC 173-340-360(4) describes the specific requirements and procedures for determining whether a cleanup action provides for a reasonable restoration time frame.

### 5.3.3 Groundwater Cleanup Action Requirements

At sites with contaminated groundwater, WAC 173-340-360(2)(c) requires that the cleanup action meet certain additional requirements. Permanent cleanup actions shall be completed when possible, and the regulation requires that the following two requirements be met if a nonpermanent action must be used:

1) Treatment or removal of the source of the release shall be conducted for liquid wastes, areas of high contamination, areas of highly mobile contaminants, or substances that cannot be reliably contained; and
2) Groundwater containment (such as barriers) or control (such as pumping) shall be implemented to the maximum extent practicable.

### 5.3.4 Cleanup Action Expectations

WAC 173-340-370 sets forth the following expectations for the development of cleanup action alternatives and the selection of cleanup actions. These expectations represent the types of cleanup actions Ecology considers likely results of the remedy selection process; however, Ecology recognizes that there may be some sites where cleanup actions conforming to these expectations are not appropriate.

- Treatment technologies will be emphasized at sites with liquid wastes and in areas with high concentrations of hazardous substances or with highly mobile and/or highly treatable contaminants;
- To minimize the need for long-term management of contaminated materials, hazardous substances will be destroyed, detoxified, and/or removed to concentrations below CULs throughout sites with small volumes of hazardous substances;
- Engineering controls, such as containment, may be necessary at sites with large volumes of materials with relatively low levels of hazardous substances and where treatment is impracticable;

- To minimize the potential for migration of hazardous substances, active measures will be taken to prevent precipitation and runoff from coming into contact with contaminated soil or waste materials;
- When hazardous substances remain on site at concentrations that exceed CULs, they will be consolidated to the maximum extent practicable to minimize the potential for direct contact and migration of hazardous substances;
- For sites adjacent to surface water, active measures will be taken to prevent/minimize releases to that water; dilution will not be the sole method for achieving compliance;
- Natural attenuation of hazardous substances may be appropriate at sites where 1) source control is conducted to the maximum extent practicable, 2) leaving contaminants on site does not pose an unacceptable risk, 3) there is evidence that natural degradation is occurring and will continue to occur, and 4) appropriate monitoring is taking place; and
- Cleanup actions will not result in a significantly greater overall threat to human health and the environment than other alternatives.

### 5.3.5 Applicable, Relevant, and Appropriate, and Local Requirements

WAC 173-340-710(1) requires that all cleanup actions comply with all applicable state and federal law. It further states that the term "applicable state and federal laws" shall include legally applicable requirements and those that the department determines "…are relevant and appropriate requirements." This section discusses applicable state and federal law, relevant and appropriate requirements, and local permitting requirements that were considered of primary importance in selecting cleanup requirements for the Site. If other requirements are identified at a later date, they will be applied to the cleanup actions at that time.

MTCA provides an exemption from the procedural requirements of several state laws and from any laws authorizing local government permits or approvals for remedial actions conducted under a consent decree, order, or agreed order (RCW 70.105D.090 ) However, the substantive requirements of a required permit must be met. The procedural requirements of the following state laws are exempted:

- Ch. 70.94 RCW, Washington Clean Air Act;
- Ch. 70.95 RCW, Solid Waste Management, Reduction, and Recycling;
- Ch. 70.105 RCW, Hazardous Waste Management;
- Ch. 77.55 RCW, Construction Projects in State Waters;
- Ch. 90.48 RCW, Water Pollution Control; and
- Ch. 90.58 RCW, Shoreline Management Act of 1971.

WAC 173-340-710(4) sets forth the criteria that Ecology evaluates when determining whether certain requirements are relevant and appropriate for a cleanup action. Local laws, which may be more stringent than specified state and federal laws, will govern where applicable.

## 5.4 EVALUATION OF CLEANUP ACTION ALTERNATIVES

The requirements and criteria outlined in Section 5.3 are used to conduct a comparative evaluation of the alternatives and to select a cleanup action from those alternatives.

### 5.4.1 Threshold Requirements

#### *5.4.1.1 Protection of Human Health and the Environment*

Both alternatives 1 and 2 reduce or eliminate risk due to contaminated soil through removal or capping and therefore would eliminate exposure pathways, protect human health and the environment.

#### *5.4.1.2 Compliance with Cleanup Standards*

Alternatives 1 and 2 would both meet cleanup standards in soil and groundwater, taking approximately the same amount of time to reach compliance.

#### *5.4.1.3 Compliance with State and Federal Laws*

The selected CULs are consistent with MTCA. In addition, local, state and federal laws related to environmental protection, health and safety, transportation, and disposal would apply to each proposed alternative. During remedial design, the selected alternative would be designed to comply with applicable, relevant, and appropriate requirements.

#### *5.4.1.4 Provision for Compliance Monitoring*

There are three types of compliance monitoring: protection, performance, and confirmational. Protection monitoring is designed to protect human health and the environment during the construction and operation and maintenance phases of the cleanup action. Performance monitoring confirms that the cleanup action has met cleanup and/or performance standards. Confirmational monitoring confirms the long-term effectiveness of the cleanup action once cleanup standards have been met or other performance standards have been attained. Both cleanup alternatives would meet this provision, as both would require varying levels of all three types of compliance monitoring.

Compliance monitoring will include cap monitoring per a forthcoming Soil Management and Cap Maintenance Plan which will be completed after the remedy is implemented. In addition, groundwater monitoring will be conducted at monitoring well MW-7 for petroleum hydrocarbons (i.e., NWTPH-Dx) on an 18 month monitoring schedule alternating low and high water events until groundwater CULs are achieved.

### 5.4.2 Other Requirements

#### *5.4.2.1 Use of Permanent Solutions to the Maximum Extent Practicable*

MTCA states that when selecting a cleanup alternative, preference shall be given to “permanent solutions to the maximum extent practicable.” “Permanent” is defined in WAC 173-340-200 as a

cleanup action in which the cleanup standards of WAC 173-340-700 through 760 are met without further action being required at the site being cleaned up or at any other site involved with the cleanup action, other than the approved disposal of any residue from the treatment of hazardous substances.

In order to determine the "maximum extent practicable" for each alternative, a disproportionate-cost analysis outlined in WAC 173-340-360(3)(e) is used. Costs are determined to be disproportionate to benefits if the incremental cost of a more expensive alternative over that of a lower-cost alternative exceeds the incremental degree of benefits achieved by the more expensive alternative. As outlined in WAC 173-340-360(3)(f), the evaluation criteria used were a mix of qualitative and quantitative factors, including protectiveness, permanence, cost effectiveness over the long term, management of short-term risks, technical and administrative implementability, and consideration of public concerns.

The cleanup alternatives are evaluated by the criteria below.

- Protectiveness

Protectiveness is a factor by which human health and the environment are protected by the cleanup action, including the degree to which existing risks are reduced; time required to reduce risk at the facility and attain cleanup standards; on-site and off-site risks resulting from implementing the cleanup action alternative; and improvement of the overall environmental quality. Alternatives 1 and 2 are equally protective because human and ecological exposure to all soil exceeding CULs are either removed from the Site or capped in place with clean material.

- Permanent Reduction of Toxicity, Mobility and Volume

Permanence is a factor by which the cleanup action alternative permanently reduces the toxicity, mobility, or volume of hazardous substances. It takes into account the adequacy of the alternative in destroying the hazardous substances, the reduction or elimination of hazardous substance releases and sources of releases, the degree of irreversibility of the waste-treatment process, and the characteristics and quantity of treatment residuals generated. Removal of soil would be considered the most permanent soil action because it permanently eliminates the source of releases at the Site. Alternatives that include less soil removal would be equivalently less permanent because they would rely on institutional controls, which could be violated or removed from the Site in the future. Therefore, Alternative 1 would be ranked higher for permanence than Alternative 2.

- Cleanup Costs

Costs are approximated based on specific design assumptions for each alternative. Although the costs provided by consultants are estimates based on design assumptions that might change, the relative costs can be used for this evaluation. For a detailed description of the costs involved with each alternative, please refer to the Focused Site Assessment.

Both alternatives include the costs of groundwater monitoring, laboratory services, construction oversight, monitoring well installation, and reporting. Major costs for alternatives include soil excavation; transport and disposal; and log pond liquid removal, transport and disposal. The cost

estimate for Alternative 1 (soil excavation) is $1,436,010, and for Alternative 2 (on-site capping) the cost is estimated at $439,030. The cost for Alternative 1 is more than three times the cost of Alternative 2.

- Long-Term Effectiveness

Long-term effectiveness includes the degree of certainty that the alternative will be successful; the reliability of the alternative for as long as hazardous substances are expected to remain on site at concentrations that exceed CULs; the magnitude of residual risk with the alternative in place; and the effectiveness of controls required to manage treatment residues or remaining wastes. Alternative 1 removes all contaminated soil, its long-term effectiveness is slightly higher than that of Alternative 2.

- Short-Term Risk

Short-term risks to remediation workers, the public, and the environment are assessed under this criterion. Generally, short-term risks are expected to be linearly related to the amount of material handled, treated, and/or transported and disposed of (e.g., worker injury per cubic yard excavated [equipment failure], public exposure per cubic yard-mile transported [highway accident]).

This factor addresses the risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks. Potential public exposure during transport, handling, and excavation required for both of the alternatives could lead to short-term risks. Because Alternative 2 requires less off-site transportation and handling of impacted soil and thus involves lower short-term risks, it is ranked higher than Alternative 1.

- Implementability

This factor addresses whether the alternative can be implemented and is technically possible. The availability of necessary materials, regulatory requirements, scheduling, access for construction operations and monitoring, and integration with existing and neighboring site uses must be considered. The proposed alternatives are both well proven and have been employed at many sites throughout the United States; both are readily implementable and rank equivalently.

- Consider Public Concerns

This factor includes considering concerns from individuals as well as community groups, local governments, tribes, federal and state agencies, and any other organization that may have an interest in or knowledge of the Site and that may have a preferred alternative. Public hearings to review cleanup and development alternatives will be held later in the process. Both alternatives would provide opportunity for members of the public to review and comment on plans.

#### *5.4.2.2 Provide a Reasonable Restoration Time Frame*

WAC 173-340-360(4) describes the specific requirements and procedures for determining whether a cleanup action provides for a reasonable restoration time frame, as required under

subsection (2)(b)(ii). The factors that determine whether a cleanup action provides a reasonable restoration time frame are set forth in WAC 173-340-360(4)(b) and include:

- Potential risks posed by the Site to human health and the environment;
- Practicability of achieving a shorter restoration time frame;
- Current site use and nearby resources that are or may be affected by the Site;
- Potential future use of the Site and of nearby resources that are or may be affected by the Site;
- Availability of alternative water supplies;
- Likely effectiveness and reliability of institutional controls;
- Ability to monitor and control migration of hazardous substances;
- Toxicity of hazardous substances; and
- Natural processes, documented on the Site, that reduce contaminant concentrations.

Alternatives that rely on soil removal to CULs would provide the greatest flexibility for current and future site use and the greatest reduction in risk, and would not rely on institutional controls. Alternatives that leave contaminants in soil above the CULs would rely on institutional controls, would have residual risk, and would increase the restoration time frame by leaving in place a potential ongoing source of groundwater contamination. Alternative 1 is ranked higher than Alternative 2, since Alternative 1 removes all contaminated soil, leading to restoration in a shorter time frame.

### 5.4.3 Groundwater Cleanup Action Requirements

Both alternatives rely on institutional controls to address the slight groundwater impacts, and therefore both alternatives score equally.

### 5.4.4 Cleanup Action Expectations

Specific expectations of cleanup actions are outlined in WAC 173-340-370 and are described in Section 5.3.4. Alternatives 1 and 2 address these expectations as follows:

- Each of the alternatives includes source control measures through the targeted removal of log pond liquid. Each also includes a restrictive covenant provisioning the use of groundwater beneath the Site.
- Alternative 1 would minimize the need for long-term management because contaminated soils would be removed rather than managed on site.
- Alternative 2 includes an engineered control that consolidates the impacted soils and the installation of an engineered permeable cap. Institutional controls will require the integrity of the cap be maintained to prevent contact with impacted soils.

- Both alternatives would eliminate surface water contacting and creating impacted runoff.
- Natural attenuation is appropriate as a groundwater remedy because source control will be a part of both alternatives; leaving contaminants on site will not pose an unacceptable risk, as exposure will be mitigated and petroleum-related groundwater impacts are expected to degrade naturally.

### 5.5 DECISION

Based on the analysis described above, Alternative 2 has been selected as the proposed remedial action for the Site. Alternative 2 meets each of the threshold requirements and uses permanent solutions to the maximum extent practicable relative to the cost of implementation. Figure 6 shows the remediation areas applicable to Alternative 2.

## 6.0 SELECTED REMEDIAL ACTION

The proposed cleanup action for the Site includes the removal of log pond liquid for characterization, and hauling and disposal at a permitted disposal facility. Impacted material stockpiled on site (500 cubic yards) will be consolidated in the log pond, and then the log pond will be backfilled with a combination of imported backfill and unimpacted material stockpiled on the Property. The filled log pond and mill area and the aggregate recycling area will be capped with a minimum of 2 feet of clean, imported backfill. The soil cap will include a geotextile demarcation layer.

Institutional controls regarding future use of the Site will be implemented. A soil management and cap maintenance plan will be developed to outline procedures for maintaining the cap and handling impacted soils during potential future subsurface earth work. Groundwater contamination will be addressed through the employment of a restrictive covenant prohibiting the use of groundwater beneath the Site as potable water.

### 6.1 INSTITUTIONAL CONTROLS

Institutional controls are measures undertaken to limit or prohibit activities that may interfere with the integrity of a cleanup action or result in exposure to hazardous substances at a site. Such measures are required to ensure both the continued protection of human health and the environment and the integrity of the cleanup action whenever hazardous substances remain at the site at concentrations exceeding applicable CULs. Institutional controls can include both physical measures and legal and administrative mechanisms. WAC 173-340-440 provides information on institutional controls and the conditions under which they may be removed.

Institutional controls will be included in the cleanup action to restrict activities that will come into contact with soil and to prevent the withdrawal and use of groundwater. A Soil Management and Cap Maintenance Plan will provide specific guidance on future use, management, and handling of soils remaining on the Site.

In addition, if methylene chloride is detected in log pond sediments then vapor mitigation or vapor assessment will be required if buildings are to be constructed over the historical log pond.

## 6.2 COMPLIANCE MONITORING

Groundwater monitoring will be conducted at MW-7 for petroleum hydrocarbons on an 18 month schedule until groundwater CULs are achieved. Groundwater monitoring will be discontinued upon Ecology approval.

## 6.3 PERIODIC REVIEW

WAC 173-340-420 states that, as long as groundwater CULs have not been achieved at sites where a cleanup action requires institutional control(s), a periodic review shall be completed no less frequently than every five years after the initiation of a cleanup action. In addition, periodic reviews are required at sites that rely on institutional controls as part of the cleanup action. Periodic reviews will be required at the Site. Periodic reviews will still be required after groundwater CULs have been achieved because soil institutional controls are a part of the remedy.

## 7.0 REFERENCES CITED

CEC and Erven. 2009. DRAFT Initial Independent Cleanup Report and Risk Assessment. Prepared for Hambleton Lumber Company. Prepared by Certified Environmental Consultants, Inc., Vancouver, Washington, and Evren Northwest, Inc., Portland Oregon. October 16.

MFA. 2012. Focused site assessment report. Prepared for the Port of Camas-Washougal. Maul Foster & Alongi, Inc., Vancouver, Washington. January 16.

MFA. 2013. Letter (re terrestrial ecological evaluation for the former Hambleton Lumber Mill, Washougal, Washington) to G. Barrett, Washington State Department of Ecology, from M. Novak and P. Wiescher, Maul Foster & Alongi, Inc., May 17.

WRCC. 2013. Western Regional Climate Center. http://www.wrcc.dri.edu/, April.

# Table 1
# Summary of Cleanup Levels
# Former Hambleton Lumber Mill
# Washougal, Washington

| Indicator Hazardous Substances | Soil CULs (mg/kg) | Groundwater CULs (µg/L) |
|---|---|---|
| **Metals** | | |
| Lead | 250 | NV |
| Mercury | 2 | NV |
| **Polychlorinated Biphenyls** | | |
| Total PCBs | 1 | NV |
| **Petroleum Hydrocarbons** | | |
| DRO | 2000 | 500 |
| RRO | 2000 | 500 |
| **Carcinogenic Polycyclic Aromatic Hydrocarbons** | | |
| Benzo(a)anthracene | NV | NV |
| Benzo(a)pyrene | 0.1 | NV |
| Benzo(b)fluoranthene | NV | NV |
| Benzo(k)fluoranthene | NV | NV |
| Chrysene | NV | NV |
| Dibenzo(a,h)anthracene | NV | NV |
| Indeno(1,2,3-cd)pyrene | NV | NV |
| cPAH TEC | 0.1 | NV |
| **Volatile Organic Compounds** | | |
| Methylene chloride | 0.02 | NV |

Notes:

cPAH TEC = carcinogenic polycyclic aromatic hydrocarbon toxicity equivalent concentration.

CULs = Cleanup levels

DRO = diesel-range organics

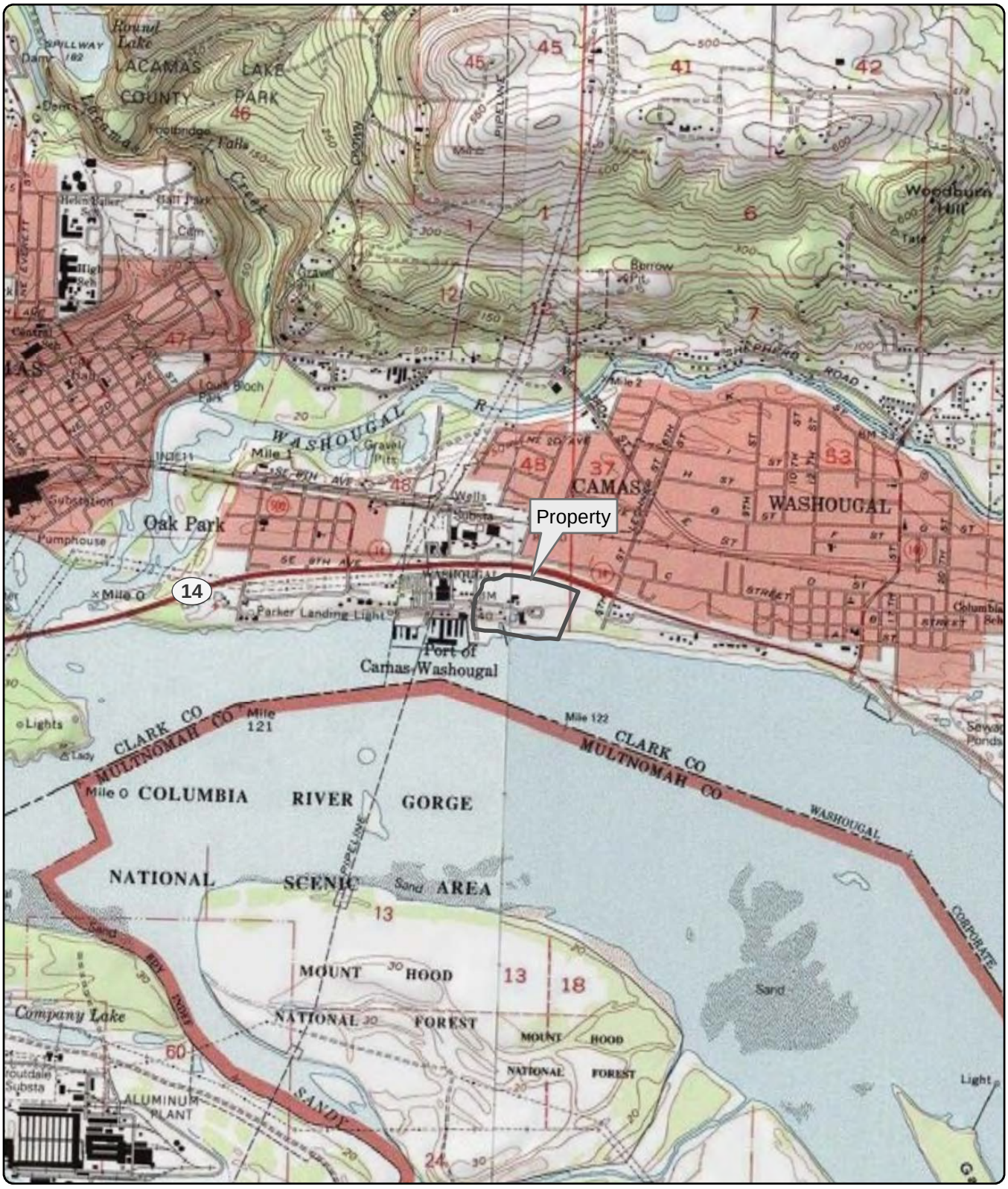
µg/L = micrograms per kilogram

mg/kg = milligrams per kilogram

NV = no value

PCBs = polychlorinated biphenyls

RRO = residual range organics




Site Address: 335 South A Street, Washougal, Washington
Source: US Geological Survey (1990) 7.5-minute topographic quadrangle: Camas & Washougal
Section 12, Township 1 N, Range 3E

Note: Property boundary is approximate and based on legal description provided by KC Development (Sept. 10, 2012).

**Legend**

Property Boundary

# Figure 1
## Property Location

Port of Camas-Washougal
Washougal, Washington

0 1,000 2,000
Feet

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Print Date: 5/8/2013
Approved By: ahughes
Produced By: maronn
Project: 0229.04.08

# Figure 2
# Site Features

Port of Camas-Washougal
Washougal, Washington


## Legend

- Catch Basin
- Outfall
- Potential Dry Well
- Monitoring Well
- Stockpile
- Fill
- Aggregate Recycling Area
- Former Swale
- Current and Former Site Buildings
- Site Boundary
- Property Boundary

Notes:

1. Site features were interpreted from aerial photography and gathered from Figures 2, 3, and 11 of the Initial Independent Cleanup Report and Risk Assessment by Certified Environmental Consulting, Inc. and Evren Northwest (October 16, 2009).
2. Potential fill based on site contact interview.
3. UST = Underground Storage Tank.
4. Property boundary is approximate and based on legal description provided by KC Development (Sept. 10, 2012).

0 75 150
Feet

Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online/Bing Maps.

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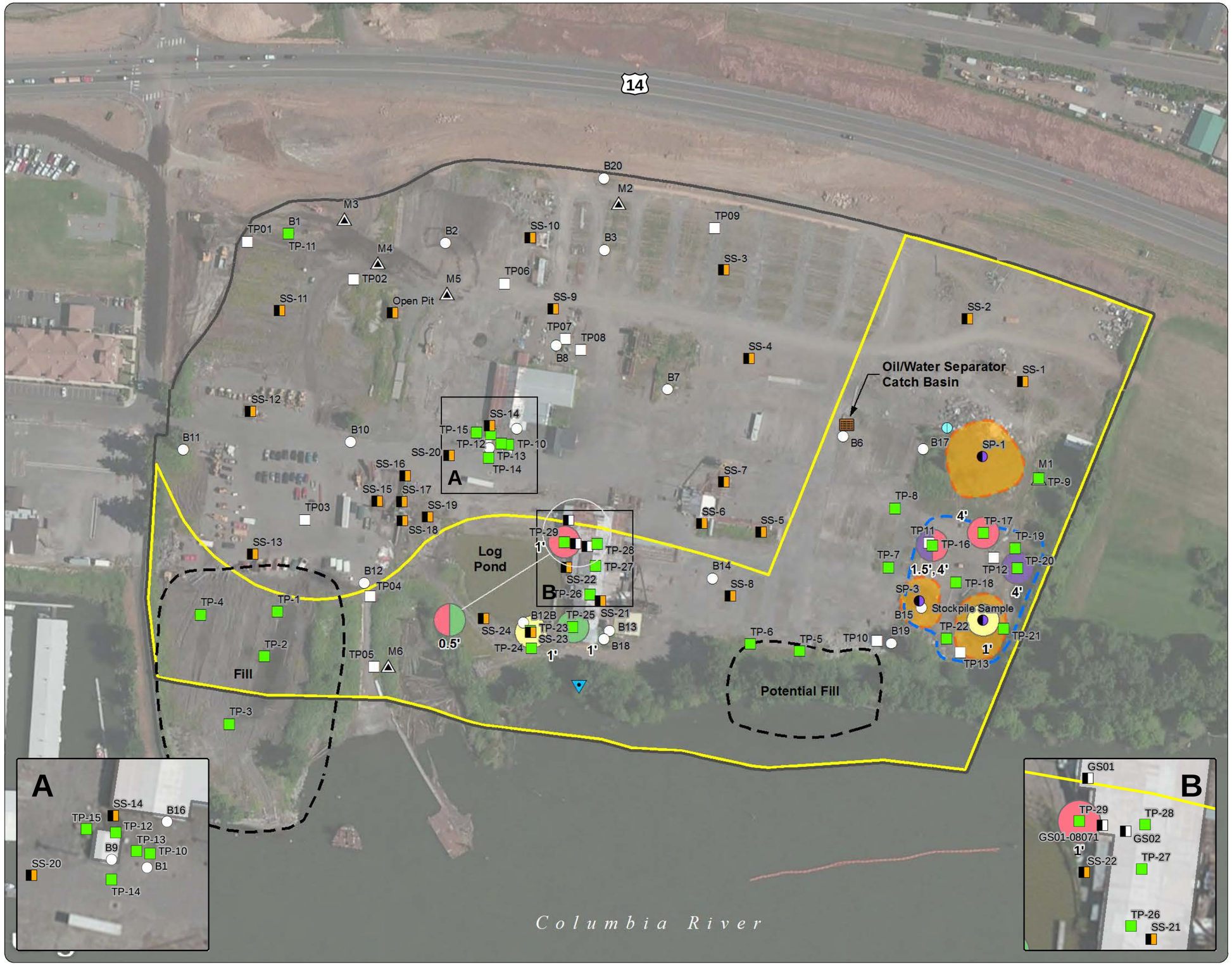
Approved By: atughes
Produced By: rmaronn
Project: 0229.04.03

# Figure 3
# Soil Sample Locations and Exceedances

Port of Camas-Washougal
Washougal, Washington




## Legend

**2011 Sample Locations**
- Surface Soil Sample
- Composite Sample
- Test Pit

**Historical Sample Locations**
- Boring
- Surface Soil Sample
- Test Pit
- Magnetic Anomaly

**Soil Exceedance and Depth (ft)**

4'

TPH | Metals | PAH | PCB

- Catch Basin
- Outfall
- Potential Dry Well
- Aggregate Recycling Area
- Stockpile
- Fill
- Site Boundary
- Property Boundary

**Contaminant Index**
TPH = Total Petroleum Hydrocarbons
Metals = Lead and/or Mercury
PAH = Polycyclic Aromatic Hydrocarbons
VOC = Volatile Organic Compounds
PCB = Polychlorinated Biphenyls

Notes:
1. Sample locations and site features were interpreted from aerial photography and gathered from Figures 2, 3, and 11 and Tables 1 and 2 of the Initial Independent Cleanup Report and Risk Assessment by Certified Environmental Consulting NW (CEC), and Evren Northwest (October 16, 2009).
2. Potential fill based on site contact interview.
3. UST = Underground Storage Tank.
4. Sample results compared to Washington Model Toxics Control Act (MTCA) Method A Soil Cleanup Values.
5. Property boundary is approximate and based on legal description provided by KC Development (Sept. 10, 2012).

0 75 150
Feet

Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online/Bing Maps.

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Path: X:\0229.04\08. Remedial Action\Projects\Fig3. Soil Sample Locations and Exceedances No VOCs.mxd
Print Date: 5/16/2013
Approved By: ahughes
Produced By: jschane/maronn
Project: 0229.04.08

Path: X:\0229.04\08. Remedial Action\Projects\Fig4 Groundwater and Surface Water Sample Locations and Exceedances.mxd
Print Date: 5/16/2013
Approved By: dhughes
Produced By: ishane/mramm
Project: 0229.04.08


# Figure 4
# Groundwater and Surface Water Sample Locations and Exceedances

Port of Camas-Washougal
Washougal, Washington

## Legend

- 2011 Monitoring Well
- Historical Monitoring Well
- Historical Surface Water Sample

Exceedances
- TPH
- Metals
- PAH

- Catch Basin
- Outfall
- Potential Dry Well
- Stockpile
- Fill Material
- Aggregate Recycling Area
- Former Site Buildings
- Site Boundary
- Property Boundary

**Contaminant Index**
TPH = Total Petroleum Hydrocarbons
Metals = Lead and/or Mercury
PAH = Polycyclic Aromatic Hydrocarbons

Notes:
1. Exceedances shown represent the Washington Model Toxics Control Act (MTCA) Method A Table Values.
2. Sample locations and site features were interpreted from aerial photography and gathered from Figures 2, 3, and 11 and Tables 1 and 2 of the Initial Independent Cleanup Report and Risk Assessment by Certified Environmental Consulting NW (CEC), and Evren Northwest (October 16, 2009).
3. Property boundary is approximate and based on legal description provided by KC Development (Sept. 10, 2012).

0 75 150
Feet

Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online/Bing Maps.

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Print Date: 5/16/2013
Approved By: ahughes
Produced By: ikehane/maconn
Project: 0229.04.08


# Figure 5
# Sediment Sample Locations and Exceedances

Port of Camas-Washougal
Washougal, Washington

## Legend

Exceedances
TPH
VOC
2011 Sediment Sample Location
Historical Sediment Sample Location
Catch Basin
Outfall
Potential Dry Well
Stockpile
Fill Material
Aggregate Recycling Area
Former Site Buildings
Site Boundary
Property Boundary

**Contaminant Index**
TPH = Total Petroleum Hydrocarbons
VOC = Volatile Organic Compounds

Notes:
1. Sample locations and site features were interpreted from aerial photography and gathered from Figures 2, 3, and 11 and Tables 1 through 13 of the Initial Independent Cleanup Report and Risk Assessment by Certified Environmental Consulting NW (CEC), and Evren Northwest (October 16, 2009).
2. Potential fill based on site contact interview.
3. UST = Underground Storage Tank.
4. Sediment sample results in Columbia River samples compared to Ecology 2010 or Freshwater Criteria Screening levels. Sediment sample results in log pond compared to Washington Model Toxics Control Act (MTCA) Method A Soil Cleanup Level values.
5. Property boundary is approximate and based on legal description provided by KC Development (Sept. 10, 2012).

0 75 150
Feet

Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online/Bing Maps.

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# Figure 6
# Remediation Boundaries

Port of Camas-Washougal
Washougal, Washington


## Legend

- Site Boundary
- Property Boundary
- Stockpile to be Removed

**Remediation Areas**

- Impacted Log Pond Sediment and Surface Water
- Impacted Mill Area Soil
- Impacted Aggregate Recycling Area Soil

Approximate Remediation Areas
and Approximate Square Footage
Log Pond Sediment: 22,000
Log Pond Soil: 12,500
Hazardous Waste: 18,800

Notes:
1. Property boundary is approximate and based on legal description provided by KC Development (Sept. 10, 2012).

0 75 150
Feet

Source: Aerial photograph obtained from Clark County GIS

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Approved By: ahughes
Produced By: jschane/rmaronn
Project: P0229.04.08

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May 17, 2013
Project No. 0229.04.08

Guy Barrett
Washington State Department of Ecology
Southwest Regional Office
PO Box 47775
Olympia, Washington 98504

Re: Terrestrial Ecological Evaluation for the former Hambleton Lumber Mill, Washougal, Washington

Dear Mr. Barrett:

On behalf of the Port of Camas-Washougal, Maul Foster & Alongi, Inc. (MFA) has prepared this terrestrial ecological evaluation (TEE) for the former Hambleton Lumber Mill at 335 South A Street, Washougal, Washington (the Property) (see Figure 1). Historically, the Property was used as a lumber mill; activities at the Property included log storage, sawmill, planer, lumber storage and shipping, and other operations ancillary to mill operations. Historical site assessments and a Focused Site Assessment Report (MFA, 2012) have characterized sources of contamination and the nature and extent of hazardous substances in environmental media above Model Toxics Control Act cleanup levels protective of human health. This TEE was completed to evaluate contamination in soils and the potential for adverse effects to any potentially exposed ecological receptors.

A TEE for the Property was performed following the procedures outlined in Washington Administrative Code (WAC) 173-340-7490 and 173-340-7493. The purpose of this TEE is to (1) present sufficient information to characterize risks to ecological receptors, and (2) evaluate the ecological protectiveness of the remedial alternatives being assessed for the Property (see WAC 173-340-7490(1)(b)), as described in MFA (2012). The TEE therefore includes problem formulation, an ecological screening evaluation, and a remedy evaluation.

The proposed alternatives (excavation or soil cap) for the Property are protective of human health (MFA, 2012). This TEE demonstrates that chemicals in property soil, with the exception of barium, are not expected to result in adverse risk to ecological receptors. However, note that barium is within expected natural background concentrations for the Northwest and common sources of barium include volcanic rocks (ASTDR, 2013). In addition, the remedial action developed for protection of human health will further reduce potential ecological exposure.

## PROBLEM FORMULATION

Exposure pathways and points and chemicals of ecological concern (CECs) are identified to define the focus of the TEE as follows:

**Exposure Pathways:** The Property is located in sections 12 and 13 of township 1 north and range 3 east, and section 7 of township 1 north and range 4 east of the Willamette Meridian (see Figure 1). The Property is approximately 1,000 feet long (north-south) and 1,600 feet wide (east-west) and is generally flat, with a slight slope toward the Columbia River (south). The Columbia River is at the Property's southern boundary, at the end of an approximately 32-foot downward slope (see Figure 2).

The Property is bordered by State Route 14 to the north and South 2nd Street to the west, with an undeveloped vacant lot to the east. Adjoining properties west of 2nd Street are a commercial hotel and a vacant building slated for commercial use. Properties north of State Route 14 are in mixed commercial, residential, and light industrial use.

There have been no structures on the Property since the demolition of a lumber mill, shop, office, chemical storage shed, and planer building. Demolition of these structures was generally completed in November 2011. Concrete foundations from the demolished structures remain. The Property is surfaced with asphalt and gravel, and some areas of the Property are covered in woody debris from log storage (see Figure 2).

Property conditions are generally unsuitable for ecological habitat. The substrate is unsuitable for most native plants; the density and diversity of plants is very low, with some ruderal vegetation present. The Property also does not provide important wildlife habitat; while it is possible for wildlife to visit the Property, potential exposures to impacted soil are expected to be minimal because there is substantial human disturbance and development and no important resources for wildlife. However, exposure routes assessed for this TEE include ingestion of chemicals in soil and plant material or prey.

**Exposure Points:** The exposure point evaluated for this TEE includes the entire Property and is defined by the soil point of compliance of 0 to 15 feet below ground surface as stated in WAC 173-340-7490 (4)(b).

**CECs:** CECs are identified by comparing soil concentrations to ecological indicator concentrations (EICs). EICs are from WAC 173-340-900 Table 749-3. According to WAC 173-340-7490(3)(b), the Table 749-3 EICs for industrial or commercial sites are appropriate for terrestrial wildlife unless threatened or endangered plant or invertebrate species are present. Because the Property is surfaced primarily with asphalt, gravel, and woody debris, was used for industrial purposes for at least 50 years, is currently zoned as highway commercial, and is planned for redevelopment that will support commercial operations (MFA, 2012), EICs for wildlife are suitable for identifying CECs, consistent with WAC 173-340-7493 (2)(i).

WAC 173-340-7493 (2)(i) further specifies that hazardous substances may be eliminated from further consideration where the 95th percentile upper confidence limit (UCL) soil concentration found at the site does not exceed EICs described in Table 749-3. UCLs were

therefore also compared with EICs, which is appropriate, as wildlife receptors are mobile and are therefore more likely to be exposed to site-wide concentrations than to discrete locations.

## ECOLOGICAL SCREENING

The ecological screening evaluation was performed first to identify discrete locations where chemicals in soil were found at concentrations greater than the wildlife EICs. Table 1 shows a comparison of site concentrations for chemicals detected in soil with EICs for metals, polychlorinated biphenyls (PCBs), total petroleum hydrocarbons, and polycyclic aromatic hydrocarbons. For the purposes of this screening evaluation, Table 1 includes data pertaining to all soil with EICs that was collected throughout the Property. To determine CECs, UCLs were also compared with EICs (see Table 2). UCLs were calculated and selected according to the U.S. Environmental Protection Agency's (USEPA) ProUCL program recommendations (USEPA, 2010). Derivation of UCLs is provided in the attachment.

Individual concentrations of metals (arsenic, barium, lead, mercury) and total PCBs exceeded EICs (see Table 1). The general nature and extent of these constituents have been discussed in the Focused Site Assessment Report (MFA, 2012). Soil EIC exceedances occur primarily in the aggregate recycling area. Note that this area is targeted for remedial action (MFA, 2012) to be protective of human health. Screening results are described below and are summarized in Table 2:

- Arsenic (maximum detection of 10.7 milligrams per kilogram [mg/kg]) marginally exceeds the EIC of 7 mg/kg (based on arsenite) at seven locations. However, the UCL (4.5 mg/kg) is well below the EIC, indicating that no adverse effects to wildlife receptors are expected. Therefore, arsenic is not selected as a CEC.
- Lead concentrations exceed the EIC at seven locations in the aggregate recycling area. However, the UCL (98.1 mg/kg) is below the EIC of 118 mg/kg, indicating that no adverse effects to wildlife receptors are expected. In addition, the aggregate recycling area is targeted for remedial action, which would further reduce ecological exposure to soils in this area. Lead is not selected as a CEC.
- Mercury exceeds the EIC at one location in the aggregate recycling area. The UCL (1.3 mg/kg) is well below the EIC of 5.5 mg/kg and the recycling area is targeted for remedial action; no adverse effects are expected. Therefore, mercury is not selected as a CEC.
- Total PCBs exceed the EIC at five locations in the area targeted for remedial action (aggregate recycling area). The UCL (0.4 mg/kg) is below the EIC of 0.65 mg/kg. No adverse effects are therefore expected. PCBs are not selected as a CEC.
- Barium exceeds the EIC at multiple locations throughout the Property and is selected as a CEC. Barium is discussed further below.

## REMEDY EVALUATION

A soil capping or soil excavation remedy protective of human health is proposed for the log pond, mill, and aggregate recycling areas (MFA, 2012). The purpose of a cap is to prevent people from directly contacting chemicals by creating a physical exposure barrier. The soil cap would consist of a geotextile liner beneath a minimum of 2 feet of clean soil. The geotextile liner would serve as a demarcation layer indicating the bottom of the soil cap, and would prevent upward migration of fine-grained material while enhancing the barrier effect of the overlying soil cover. This soil cap would be expected to reduce potential for future ecological exposure to the aggregate recycling area, where most of EIC exceedances occur (see Table 1); capping would also further decrease areawide chemical concentrations that are already below EICs. If a soil excavation remedy is selected, soil removal will similarly reduce discrete locations with concentrations above EICs and will further reduce areawide concentrations to below EICs. Neither alternative is expected to significantly decrease exposure to barium, as concentrations are generally consistent and elevated relative to the EIC throughout the Property.

## CEC EVALUATION

Barium is the only chemical identified as a CEC for property soils. Barium soil concentrations are consistent throughout the Property. Average and median concentrations are similar (146 mg/kg and 140 mg/kg, respectively), indicating that the data are not significantly skewed, and the maximum concentration is 283 mg/kg. While the Washington State Department of Ecology did not identify natural background for Washington for barium in its guidance concerning natural background of metals in soil (1994), the Oregon Department of Environmental Quality (DEQ) published a recent (2013) document that determined a background value of 790 mg/kg for the Portland Basin, and the lowest background concentration for Oregon was identified as 630 mg/kg (DEQ, 2013). Concentrations of barium on the Property therefore likely reflect natural background concentrations.

In addition, for a variety of reasons barium concentrations are not likely to result in unacceptable risk to ecological receptors. The Property does not provide important ecological habitat, and potential exposures to impacted soil are expected to be minimal. Barium concentrations are also an order of magnitude below USEPA ecological screening criteria developed for wildlife (2,000 mg/kg) (USEPA, 2005), indicating that adverse risks to receptors at the Property are unlikely.

## CONCLUSIONS

The remedial options proposed for the Property, including the selected remedy, which consolidates and caps impacted soil in the log pond, mill, and aggregate recycling areas, will be protective of both human health and the environment. No additional remedial actions are required for protection of the environment. If you have any questions, please contact us.

Sincerely,

Maul Foster & Alongi, Inc.

Madi Novak
Senior Environmental Scientist

Phil Wiescher, PhD
Staff Environmental Scientist

Attachments: Limitations
References
Tables
Figures
ProUCL Output

# LIMITATIONS

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

# REFERENCES

ASTDR. 2013. Internet site (re barium and barium compounds), http://www.atsdr.cdc.gov/toxprofiles/tp24-c6.pdf, May 14.

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Ecology. 1994. Natural background soil metals concentrations in Washington State. Publication No. 94-115. Washington State Department of Ecology, Toxics Cleanup Program. October.

MFA. 2012. Focused site assessment report. Prepared for the Port of Camas Washougal. Maul Foster & Alongi, Inc., Vancouver, Washington. January 16.

USEPA. 2005. Ecological soil screening levels for barium. OSWER Directive 9285.7-63. U.S. Environmental Protection Agency. February.

USEPA. 2010. ProUCL ver. 4.1.00 Technical guide (draft). EPA/600/R-07/041. U.S. Environmental Protection Agency, Office of Research and Development, Washington DC. May.

# TABLES

**Table 1**
**Soil Analytical Results**
**Former Hambleton Lumber Mill**
**Washougal, Washington**

| Area | MTCA Wildlife Ecological Indicator Concentration | Open Pit | Stockpiles | | | Planer Building | | | Debarker | | | | | | High Traffic / Storage Areas | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Open Pit 1 | SP-01 | SP-02 | SP-03 | SS-05 | SS-06 | SS-07 | SS-15 | SS-16 | SS-17 | SS-18 | SS-19 | SS-20 | SS-01 | SS-02 | SS-03 | SS-04 | SS-08 |
| Date Collected | | 9/15/2011 | 9/8/2011 | 9/8/2011 | 9/8/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/6/2011 | 9/6/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 |
| Start Depth (ft) | | 20 | 0.3 | 0.3 | 0.3 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 |
| End Depth (ft) | | 21 | 0.8 | 0.8 | 0.8 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 2.0 | 2.0 | 1.5 | 1.5 | 1.5 |
| **Metals (mg/kg)** | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7[a] | 4.31 | 5.52 | 4.44 | 3.55 | 4.93 | 4.55 | 6.71 | -- | 6.07 | -- | -- | -- | **10.7** | 2.06 U | 2.22 U | 5.89 | 1.42 | 3.75 |
| Barium | 102 | **213** J | 76.5 | 70.1 | 65.8 | **214** | **166** | **230** | -- | **234** | -- | -- | -- | **132** | **147** J | **139** J | **158** | 73.6 | **180** |
| Cadmium | 14 | 0.118 U | 0.0766 U | 0.0591 U | 0.0683 U | 0.115 U | 0.088 U | 0.102 U | -- | 0.0823 U | -- | -- | -- | 0.123 U | 0.103 U | 0.111 U | 0.0867 U | 0.0637 U | 0.0819 U |
| Chromium | 67 | 16.1 J | 8.39 | 9.77 | 6.91 | 17.7 | 17.6 | 20.1 | -- | 16.2 | -- | -- | -- | 18.3 | 20.2 | 16.9 | 18.2 | 6.02 | 16.4 |
| Lead | 118 | 7.86 J | 9.33 | 18.8 | 3.07 | 3.2 | 1.76 U | 6.98 | -- | 20.5 | -- | -- | -- | 6.36 | 26.9 | 11.4 | 1.73 U | 4.23 | 2.68 |
| Mercury | 5.5[b] | 0.03 | 0.0277 | 0.0104 | 0.0381 | 0.232 | 0.0181 | 0.0404 | -- | 0.0625 | -- | -- | -- | 0.0226 | 0.0281 | 0.0433 | 0.0329 | 0.253 | 0.0247 |
| Selenium | 0.3 | 2.36 U | 1.53 U | 1.18 U | 1.37 U | 2.3 U | 1.76 U | 2.04 U | -- | 1.65 U | -- | -- | -- | 2.45 U | 2.06 U | 2.22 U | 1.73 U | 1.27 U | 1.64 U |
| **PCBs (mg/kg)** | | | | | | | | | | | | | | | | | | | |
| Total PCBs | 0.65 | 0.0202 | 0.0174 | 0.0194 | 0.336 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **TPH (mg/kg)** | | | | | | | | | | | | | | | | | | | |
| DRO | 6000[c] | -- | 17 U | 26.7 | 15.2 U | 20 U | 18.5 U | 33 | 18 U | 17.8 U | 17.1 U | 146 | 886 | 19.9 U | 67.2 | 44.1 | 18.2 U | 26.1 | 17.7 U |
| GRO | 5000[c] | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **PAHs (mg/kg)** | | | | | | | | | | | | | | | | | | | |
| Benzo(a)pyrene | 12 | 0.0348 | 0.0363 | 0.232 | 0.00674 U | -- | -- | -- | -- | 0.0395 U | -- | -- | -- | -- | 0.0453 J | -- | -- | -- | -- |

**Table 1**
**Soil Analytical Results**
**Former Hambleton Lumber Mill**
**Washougal, Washington**

| Area | MTCA Wildlife Ecological Indicator Concentration | High Traffic / Storage Areas | | | | | Fill Areas | | | | | | B-1 , M1, and Potential UST Pit (south side) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | SS-09 | SS-10 | SS-11 | SS-12 | SS-13 | TP-01 | TP-02 | TP-03 | TP-04 | TP-05 | TP-06 | TP-09 | TP-09 | TP-10 | TP-10 | TP-11 | TP-11 |
| Date Collected | | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 |
| Start Depth (ft) | | 0.5 | 0.5 | 1.5 | 0.5 | 0.5 | 2.8 | 2.0 | 2.8 | 2.0 | 3.0 | 3.0 | 1.8 | 6.8 | 1.8 | 6.8 | 1.8 | 6.8 |
| End Depth (ft) | | 1.5 | 1.5 | 2.5 | 1.5 | 1.5 | 3.3 | 5.0 | 3.3 | 4.5 | 13.0 | 13.0 | 2.3 | 7.3 | 2.3 | 7.3 | 2.3 | 7.3 |
| **Metals (mg/kg)** | | | | | | | | | | | | | | | | | | |
| Arsenic | 7[a] | **7.36** | 3.37 | 5.37 | 6.61 | **7.3** | -- | -- | -- | 2.53 | 3.88 U | -- | 6.7 | 5.01 | 5.82 | **7.77** | 3.37 | 4.75 |
| Barium | 102 | **242** | **104** | 76.3 | **133** | 78.6 | -- | -- | -- | **138** | **186** J | -- | 67.4 | **194** | **255** | **112** | 83.4 | **173** |
| Cadmium | 14 | 0.0972 U | 0.0707 U | 0.107 U | 0.272 | 0.0711 U | -- | -- | -- | 0.198 | 0.291 | -- | 0.11 U | 0.116 U | 0.109 U | 0.0936 U | 0.123 U | 0.0987 U |
| Chromium | 67 | 19.9 | 5.94 | 8.28 | 13.7 | 10.7 | -- | -- | -- | 19.5 | 21.2 | -- | 38.6 | 29.6 | 16.3 | 17.6 | 9.2 | 6.59 |
| Lead | 118 | 6.23 | 3.8 | 7.11 | 42.4 | 5.75 | -- | -- | -- | 12.6 | 46.8 | -- | 21 | 3.05 | 2.18 U | 1.87 U | 17.1 | 1.97 U |
| Mercury | 5.5[b] | 0.0574 | 0.02 | 0.0165 | 0.0566 | 0.0222 | -- | -- | -- | 0.0487 J | 0.0963 | -- | 0.0662 | 0.0125 U | 0.0543 | 0.128 | 0.0533 | 0.0614 |
| Selenium | 0.3 | 1.94 U | 1.41 U | 2.14 U | 2.17 U | 1.42 U | -- | -- | -- | 2.33 U | 3.88 U | -- | 2.2 U | 2.32 U | 2.18 U | 1.87 U | 2.47 U | 1.97 U |
| **PCBs (mg/kg)** | | | | | | | | | | | | | | | | | | |
| Total PCBs | 0.65 | -- | -- | -- | -- | -- | 0.000459 U | 0.000418 U | 0.000466 U | 0.000403 U | 0.000724 U | 0.00055 U | -- | -- | -- | -- | -- | -- |
| **TPH (mg/kg)** | | | | | | | | | | | | | | | | | | |
| DRO | 6000[c] | 18.1 U | 16.1 U | 70.9 | 53.2 | 17.1 U | 305 | -- | -- | -- | 185 | 187 | 79.9 | 19.5 U | 19 U | 18 U | 68.7 | 17.8 U |
| GRO | 5000[c] | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 5.39 U | 4.42 U | 23.7 | 5.85 U | 7.93 U | 3.48 U |
| **PAHs (mg/kg)** | | | | | | | | | | | | | | | | | | |
| Benzo(a)pyrene | 12 | -- | -- | 0.0377 J | -- | -- | 0.0202 | 0.0226 | 0.0159 | 0.00807 U | 0.0145 U | 0.0231 | 0.015 | 0.032 | 0.00844 U | 0.00799 U | 0.013 | 0.0079 U |

**Table 1**
**Soil Analytical Results**
**Former Hambleton Lumber Mill**
**Washougal, Washington**

| Area | MTCA Wildlife Ecological Indicator Concentration | Petroleum Storage Area | | | | | Aggregate Recycling Area | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | SS-14 | TP-12 | TP-13 | TP-14 | TP-15 | TP-16 | TP-16 | TP-16 | TP-17 | TP-17 | TP-17 | Comp (TP-16 and TP-17) |
| Date Collected | | 9/7/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 |
| Start Depth (ft) | | 0.5 | 0.8 | 0.8 | 0.8 | 0.8 | 1.3 | 3.8 | 9.8 | 1.3 | 3.8 | 10.3 | NA |
| End Depth (ft) | | 1.5 | 1.3 | 1.3 | 1.3 | 1.3 | 1.8 | 4.3 | 10.3 | 1.8 | 4.3 | 10.3 | NA |
| **Metals (mg/kg)** | | | | | | | | | | | | | |
| Arsenic | 7[a] | **7.15** | 2.84 | 2.82 U | 2.16 U | 2.4 U | 2.62 U | 2.16 U | 2.41 U | 2.8 | 3.53 | 3.37 | -- |
| Barium | 102 | **208** | **202** | **151** | **231** | **197** | **161** | **283** | **110** | **195** | **280** | **105** | -- |
| Cadmium | 14 | 0.0826 U | 0.115 U | 0.141 U | 0.108 U | 0.12 U | 0.249 | 0.119 | 0.12 U | 0.27 | 0.298 | 0.118 U | -- |
| Chromium | 67 | 15.6 | 20.1 | 17.6 | 19.1 | 18.1 | 20.6 | 19.3 | 16.2 | 29.8 | 30.9 | 14.5 | -- |
| Lead | 118 | 7.96 | 7.41 | 14.6 | 4.68 | 2.46 | **259** | **412** | 2.41 U | **248** | **438** | 2.36 U | -- |
| Mercury | 5.5[b] | 0.0487 | 0.0306 | 0.0285 | 0.0264 | 0.0229 | 1.12 | **9.53** | 0.0201 | 0.842 | 0.94 | 0.0192 U | -- |
| Selenium | 0.3 | 1.65 U | 2.3 U | 2.82 U | 2.16 U | 2.4 U | 2.62 U | 2.16 U | 2.41 U | 2.08 U | 2.3 U | 2.36 U | -- |
| **PCBs (mg/kg)** | | | | | | | | | | | | | |
| Total PCBs | 0.65 | -- | -- | -- | -- | -- | **1.869** | 0.0633 | 0.000433 U | 0.352 | **0.763** | 0.000408 U | -- |
| **TPH (mg/kg)** | | | | | | | | | | | | | |
| DRO | 6000[c] | 25.8 | 39.8 | 291 | 19.5 U | 19.4 U | -- | -- | -- | -- | -- | -- | -- |
| GRO | 5000[c] | 30.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **PAHs (mg/kg)** | | | | | | | | | | | | | |
| Benzo(a)pyrene | 12 | -- | -- | -- | -- | -- | 0.0468 | 0.0533 | 0.0121 | 0.0505 | 0.0608 | 0.00817 U | -- |

**Table 1**
**Soil Analytical Results**
**Former Hambleton Lumber Mill**
**Washougal, Washington**

| Area | MTCA Wildlife Ecological Indicator Concentration | Aggregate Recycling Area | | | | | | | | | | High Traffic / Storage Areas / Aggregate Recycling Area | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TP-18 | TP-19 | TP-19 | TP-19 | TP-20 | TP-20 | TP-21 | TP-22 | TP-22 | TP-22 | TP-07 | TP-08 |
| Date Collected | | 10/27/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 9/6/2011 | 9/6/2011 |
| Start Depth (ft) | | 3.8 | 1.3 | 3.3 | 5.8 | 3.8 | 9.8 | 3.8 | 1.3 | 2.8 | 9.8 | 1.0 | 1.0 |
| End Depth (ft) | | 4.3 | 1.8 | 3.3 | 6.3 | 4.3 | 10.3 | 4.3 | 1.8 | 3.3 | 10.3 | 2.0 | 2.0 |
| **Metals (mg/kg)** | | | | | | | | | | | | | |
| Arsenic | 7[a] | 4.28 | 3.9 | 3.44 | 2.45 U | 2.16 U | -- | 2.09 U | 2.61 | 2.05 U | 2.62 U | 6.09 | 3.51 |
| Barium | 102 | **205** | **171** | **123** | **239** | **149** | -- | 75.6 | **126** | 33.5 | **141** | **106** J | **238** J |
| Cadmium | 14 | 0.129 U | 0.28 | 0.225 | 0.123 U | 0.237 | -- | 0.104 U | 0.163 | 0.102 U | 0.183 | 0.214 | 0.111 U |
| Chromium | 67 | 24.1 | 18.8 | 16 | 25.2 | 18.2 | -- | 11 | 15.4 | 7.39 | 15 | 16.3 | 18.3 |
| Lead | 118 | 66.2 | **143** | **212** | 10.5 | **178** | -- | 91.4 | 12.2 | 40.3 | 94.8 | 24.2 | 5.25 |
| Mercury | 5.5[b] | 0.885 | 0.376 | 0.856 | 0.0338 | 0.771 | -- | 0.825 | 0.284 | 0.211 | 0.0433 | 0.019 | 0.0314 |
| Selenium | 0.3 | 2.58 U | 2.24 U | 2.05 U | 2.45 U | 2.16 U | -- | 2.09 U | 2.17 U | 2.05 U | 2.62 U | 2.14 U | 2.21 U |
| **PCBs (mg/kg)** | | | | | | | | | | | | | |
| Total PCBs | 0.65 | 0.0717 | **0.657** | 0.546 | 0.0168 | **1.17** | 0.00118 | **0.852** | 0.322 | 0.34 | 0.454 | -- | -- |
| **TPH (mg/kg)** | | | | | | | | | | | | | |
| DRO | 6000[c] | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 16.7 U | 18.6 U |
| GRO | 5000[c] | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **PAHs (mg/kg)** | | | | | | | | | | | | | |
| Benzo(a)pyrene | 12 | 0.0323 | 0.0336 | 0.0609 | 0.00883 U | -- | 0.0688 | 0.0638 | 0.045 | 0.0501 | 0.00909 U | -- | -- |

**Table 1**
**Soil Analytical Results**
**Former Hambleton Lumber Mill**
**Washougal, Washington**

| Area | MTCA Wildlife Ecological Indicator Concentration | Log Pond Overfill | | | | | | | Mill | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | SS-22 | SS-23 | SS-24 | TP-23 | TP-24 | TP-25 | TP-25 | SS-21 | TP-26 | TP-27 | TP-28 | TP-29 | TP-29 |
| Date Collected | | 9/8/2011 | 9/8/2011 | 9/8/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 9/8/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 |
| Start Depth (ft) | | 0.5 | 0.5 | 0.5 | 2.8 | 0.8 | 0.8 | 2.8 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 | 2.8 |
| End Depth (ft) | | 1.5 | 1.5 | 1.5 | 3.3 | 1.3 | 1.3 | 3.3 | 1.0 | 1.3 | 1.3 | 1.3 | 1.3 | 3.3 |
| **Metals (mg/kg)** | | | | | | | | | | | | | | |
| Arsenic | 7[a] | 4.88 | 5.12 | **7.13** | 3.18 U | 2.02 U | 1.62 U | -- | **8.3** | 3.37 | 4.32 | 2.24 | 2 | -- |
| Barium | 102 | **163** | 65.5 | 95.9 | 92.2 | **140** | 53.8 | -- | **151** | 67 | **102** | **114** | 47.9 | -- |
| Cadmium | 14 | 0.264 | 0.0671 U | 0.0979 U | 0.159 U | 0.101 U | 0.0812 U | -- | 0.0815 U | 0.122 U | 0.124 U | 0.104 U | 0.352 | -- |
| Chromium | 67 | 14.5 | 9.97 | 13.4 | 12.5 | 15 | 4.52 | -- | 21.2 | 17.1 | 14.6 | 18.4 | 10.8 | -- |
| Lead | 118 | 4.15 | 14.9 | 9.29 | 4.51 | 20.1 | 1.62 U | -- | 4.85 | 2.88 | 6.79 | 2.94 | 109 | -- |
| Mercury | 5.5[b] | 0.0188 U | 0.0738 | 0.0415 | 0.0235 U | 0.0384 | 0.0213 | -- | 0.0111 | 0.0182 U | 0.0194 U | 0.0244 | 2.12 | 0.123 |
| Selenium | 0.3 | 1.82 U | 1.34 U | 1.96 U | 3.18 U | 2.02 U | 1.62 U | -- | 1.63 U | 2.44 U | 2.48 U | 2.08 U | 1.95 U | -- |
| **PCBs (mg/kg)** | | | | | | | | | | | | | | |
| Total PCBs | 0.65 | 0.000375 U | 0.0286 | 0.143 | -- | -- | -- | -- | 0.000402 U | -- | -- | -- | -- | -- |
| **TPH (mg/kg)** | | | | | | | | | | | | | | |
| DRO | 6000[c] | 834 | 207 | 219 | 409 | 17.6 U | 928 | 21.3 | 18.1 U | 19.1 U | 18.6 U | 18.1 U | 83.7 | -- |
| GRO | 5000[c] | 2.82 U | 2.62 U | 2.74 U | -- | -- | -- | -- | 3.02 U | -- | -- | -- | -- | -- |
| **PAHs (mg/kg)** | | | | | | | | | | | | | | |
| Benzo(a)pyrene | 12 | 0.00752 U | 0.109 | 0.0402 | 0.0276 | 0.0203 | 0.00736 U | -- | 0.00805 U | 0.00848 U | 0.052 | 0.00967 | 0.0391 | -- |

**Table 1**
**Soil Analytical Results**
**Former Hambleton Lumber Mill**
**Washougal, Washington**

NOTES:

-- = not available.

**Bold** = values exceed screening criteria.

DRO = diesel-range organics.

ft = feet.

GRO = gasoline-range organics.

J = estimated concentration.

mg/kg = milligrams per kilogram.

MTCA = Model Toxics Control Act.

PAH = polycyclic aromatic hydrocarbon.

PCB = polychlorinated biphenyl.

TPH = total petroleum hydrocarbons.

U = analyte not detected at or above method reporting limit (MRL). MRL value is posted unless noted otherwise.

[a]Used arsenic III (arsenite) value of 7 mg/kg, not arsenic V (arsenate) value of 132 mg/kg.

[b]Inorganic mercury.

[c]Residual saturation also has to be considered.

# Table 2
# Soil Screening Results
# Former Hambleton Lumber Mill
# Washougal, Washington

| Analyte | MTCA Wildlife Ecological Indicator Concentration | Maximum Detected Concentration | Number of Exceedances | 95% UCL |
|---|---|---|---|---|
| **Metals (mg/kg)** | | | | |
| Arsenic | 7[a] | **10.7** | 7 | 4.5[d] |
| Barium | 102 | **283** | 44 | **159.7** |
| Cadmium | 14 | 0.352 | 0 | NC |
| Chromium | 67 | 38.6 | 0 | NC |
| Lead | 118 | **438** | 7 | 98.1 |
| Mercury | 5.5[b] | **9.53** | 1 | 1.3 |
| Selenium | 0.3 | ND | 0 | NC |
| **PCBs (mg/kg)** | | | | |
| Total PCBs | 0.65 | **1.869** | 5 | 0.4 |
| **TPH (mg/kg)** | | | | |
| DRO | 6000[c] | 928 | 0 | NC |
| GRO | 5000[c] | 30.2 | 0 | NC |
| **PAHs (mg/kg)** | | | | |
| Benzo(a)pyrene | 12 | 0.232 | 0 | NC |

NOTES:

**Bold** = values exceed screening criteria.

DRO = diesel-range organics.

GRO = gasoline-range organics.

mg/kg = milligrams per kilogram.

ND = not detected.

MTCA = Model Toxics Control Act.

NC = not calculated.

PAH = polycyclic aromatic hydrocarbon.

PCB = polychlorinated biphenyl.

TPH = total petroleum hydrocarbons.

UCL = upper confidence limit, calculated using ProUCL (see Attachment A).

[a]Used arsenic III (arsenite) value of 7 mg/kg, not arsenic V (arsenate) value of 132 mg/kg.

[b]Inorganic mercury

[c]Residual saturation also has to be considered.

[d]ProUCL recommended 2 UCLs for use; the higher value is shown (see Attachment A).

# FIGURES


Site Address: 335 South A Street, Washougal, Washington
Source: US Geological Survey (1990) 7.5-minute topographic quadrangle: Camas & Washougal
Section 12, Township 1 N, Range 3E

Note:
1. Property boundary is approximate and based on legal description provided by KC Development (Sept. 10, 2012).

**Legend**

Property Boundary

# Figure 1
## Site Location

Port of Camas-Washougal
Washougal, Washington

0 1,000 2,000
Feet

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Path: X:\0229.04\1-2 RIFS\Projects\Fig1_Site Location.mxd
Print Date: 5/8/2013
Approved By: K. Roslund
Produced By: J. Schane
Project: 0229.04.03

# Figure 2
# Site Features

Port of Camas-Washougal
Washougal, Washington


## Legend

- Catch Basin
- Outfall
- Potential Dry Well
- Monitoring Well
- Stockpile
- Fill
- Aggregate Recycling Area
- Former Swale
- Current and Former Site Buildings
- Site Boundary
- Property Boundary

Notes:

1. Site features were interpreted from aerial photography and gathered from Figures 2, 3, and 11 of the Initial Independent Cleanup Report and Risk Assessment by Certified Environmental Consulting, Inc. and Evren Northwest (October 16, 2009).
2. Potential fill based on site contact interview.
3. UST = Underground Storage Tank.
4. Property boundary is approximate and based on legal description provided by KC Development (Sept. 10, 2012).

0 75 150
Feet

Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online/Bing Maps.

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Path: X:\0229.04\1.2 RI\FS\Projects\Fig2_Site Features.mxd
Print Date: 5/16/2013
Approved By: aburbes
Produced By: rmaroon
Project: 0229.04.03

# ATTACHMENT

PROUCL OUTPUT

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | **General UCL Statistics for Data Sets with Non-Detects** | | | | | | | | |
| 2 | | | **User Selected Options** | | | | | | | | | |
| 3 | | | From File | Sheet2.wst | | | | | | | | |
| 4 | | | Full Precision | OFF | | | | | | | | |
| 5 | | | Confidence Coefficient | 95% | | | | | | | | |
| 6 | | | Number of Bootstrap Operations | 2000 | | | | | | | | |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | **Arsenic** | | | | | | | | | | | |
| 10 | | | | | | | | | | | | |
| 11 | | | | | | **General Statistics** | | | | | | | |
| 12 | | | | | Number of Valid Data | 60 | | | Number of Detected Data | 43 | | |
| 13 | | | | | Number of Distinct Detected Data | 40 | | | Number of Non-Detect Data | 17 | | |
| 14 | | | | | Number of Missing Values | 6 | | | Percent Non-Detects | 28.33% | | |
| 15 | | | | | | | | | | | | |
| 16 | | | | | **Raw Statistics** | | | | **Log-transformed Statistics** | | | |
| 17 | | | | | Minimum Detected | 1.42 | | | Minimum Detected | 0.351 | | |
| 18 | | | | | Maximum Detected | 10.7 | | | Maximum Detected | 2.37 | | |
| 19 | | | | | Mean of Detected | 4.853 | | | Mean of Detected | 1.498 | | |
| 20 | | | | | SD of Detected | 1.939 | | | SD of Detected | 0.42 | | |
| 21 | | | | | Minimum Non-Detect | 1.62 | | | Minimum Non-Detect | 0.482 | | |
| 22 | | | | | Maximum Non-Detect | 3.88 | | | Maximum Non-Detect | 1.356 | | |
| 23 | | | | | | | | | | | | |
| 24 | | | | | Note: Data have multiple DLs - Use of KM Method is recommended | | | | Number treated as Non-Detect | 33 | | |
| 25 | | | | | For all methods (except KM, DL/2, and ROS Methods), | | | | Number treated as Detected | 27 | | |
| 26 | | | | | Observations < Largest ND are treated as NDs | | | | Single DL Non-Detect Percentage | 55.00% | | |
| 27 | | | | | | | | | | | | |
| 28 | | | | | | **UCL Statistics** | | | | | | |
| 29 | | | | | **Normal Distribution Test with Detected Values Only** | | | | **Lognormal Distribution Test with Detected Values Only** | | | |
| 30 | | | | | Shapiro Wilk Test Statistic | 0.967 | | | Shapiro Wilk Test Statistic | 0.984 | | |
| 31 | | | | | 5% Shapiro Wilk Critical Value | 0.943 | | | 5% Shapiro Wilk Critical Value | 0.943 | | |
| 32 | | | | | **Data appear Normal at 5% Significance Level** | | | | **Data appear Lognormal at 5% Significance Level** | | | |
| 33 | | | | | | | | | | | | |
| 34 | | | | | **Assuming Normal Distribution** | | | | **Assuming Lognormal Distribution** | | | |
| 35 | | | | | DL/2 Substitution Method | | | | DL/2 Substitution Method | | | |
| 36 | | | | | Mean | 3.819 | | | Mean | 1.121 | | |
| 37 | | | | | SD | 2.333 | | | SD | 0.709 | | |
| 38 | | | | | 95% DL/2 (t) UCL | 4.322 | | | 95% H-Stat (DL/2) UCL | 4.766 | | |
| 39 | | | | | | | | | | | | |
| 40 | | | | | Maximum Likelihood Estimate(MLE) Method | | | | Log ROS Method | | | |
| 41 | | | | | Mean | 3.569 | | | Mean in Log Scale | 1.267 | | |
| 42 | | | | | SD | 2.698 | | | SD in Log Scale | 0.516 | | |
| 43 | | | | | 95% MLE (t) UCL | 4.151 | | | Mean in Original Scale | 4.043 | | |
| 44 | | | | | 95% MLE (Tiku) UCL | 4.33 | | | SD in Original Scale | 2.093 | | |
| 45 | | | | | | | | | 95% t UCL | 4.494 | | |
| 46 | | | | | | | | | 95% Percentile Bootstrap UCL | 4.477 | | |
| 47 | | | | | | | | | 95% BCA Bootstrap UCL | 4.502 | | |
| 48 | | | | | | | | | 95% H UCL | 4.61 | | |
| 49 | | | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | **Gamma Distribution Test with Detected Values Only** | | | | | | **Data Distribution Test with Detected Values Only** | | | | | |
| 51 | k star (bias corrected) | | | | 5.876 | | **Data appear Normal at 5% Significance Level** | | | | | |
| 52 | Theta Star | | | | 0.826 | | | | | | | |
| 53 | nu star | | | | 505.4 | | | | | | | |
| 54 | | | | | | | | | | | | |
| 55 | A-D Test Statistic | | | | 0.193 | | **Nonparametric Statistics** | | | | | |
| 56 | 5% A-D Critical Value | | | | 0.751 | | Kaplan-Meier (KM) Method | | | | | |
| 57 | K-S Test Statistic | | | | 0.751 | | Mean | | | | | 3.959 |
| 58 | 5% K-S Critical Value | | | | 0.135 | | SD | | | | | 2.168 |
| 59 | **Data appear Gamma Distributed at 5% Significance Level** | | | | | | SE of Mean | | | | | 0.287 |
| 60 | | | | | | | 95% KM (t) UCL | | | | | 4.439 |
| 61 | **Assuming Gamma Distribution** | | | | | | 95% KM (z) UCL | | | | | 4.432 |
| 62 | Gamma ROS Statistics using Extrapolated Data | | | | | | 95% KM (jackknife) UCL | | | | | 4.411 |
| 63 | Minimum | | | | 0.000001 | | 95% KM (bootstrap t) UCL | | | | | 4.434 |
| 64 | Maximum | | | | 10.7 | | 95% KM (BCA) UCL | | | | | 4.6 |
| 65 | Mean | | | | 3.584 | | 95% KM (Percentile Bootstrap) UCL | | | | | 4.513 |
| 66 | Median | | | | 3.52 | | 95% KM (Chebyshev) UCL | | | | | 5.211 |
| 67 | SD | | | | 2.629 | | 97.5% KM (Chebyshev) UCL | | | | | 5.753 |
| 68 | k star | | | | 0.289 | | 99% KM (Chebyshev) UCL | | | | | 6.816 |
| 69 | Theta star | | | | 12.38 | | | | | | | |
| 70 | Nu star | | | | 34.73 | | **Potential UCLs to Use** | | | | | |
| 71 | AppChi2 | | | | 22.25 | | 95% KM (t) UCL | | | | | 4.439 |
| 72 | 95% Gamma Approximate UCL (Use when n >= 40) | | | | 5.595 | | 95% KM (Percentile Bootstrap) UCL | | | | | 4.513 |
| 73 | 95% Adjusted Gamma UCL (Use when n < 40) | | | | 5.658 | | | | | | | |
| 74 | **Note: DL/2 is not a recommended method.** | | | | | | | | | | | |
| 75 | | | | | | | | | | | | |
| 76 | **Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.** | | | | | | | | | | | |
| 77 | **These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).** | | | | | | | | | | | |
| 78 | **For additional insight, the user may want to consult a statistician.** | | | | | | | | | | | |
| 79 | | | | | | | | | | | | |
| 80 | | | | | | | | | | | | |
| 81 | **Barium** | | | | | | | | | | | |
| 82 | | | | | | | | | | | | |
| 83 | **General Statistics** | | | | | | | | | | | |
| 84 | Number of Valid Observations | | | | 60 | | Number of Distinct Observations | | | | | 59 |
| 85 | Number of Missing Values | | | | 6 | | | | | | | |
| 86 | | | | | | | | | | | | |
| 87 | **Raw Statistics** | | | | | | **Log-transformed Statistics** | | | | | |
| 88 | Minimum | | | | 33.5 | | Minimum of Log Data | | | | | 3.512 |
| 89 | Maximum | | | | 283 | | Maximum of Log Data | | | | | 5.645 |
| 90 | Mean | | | | 146.1 | | Mean of log Data | | | | | 4.878 |
| 91 | Geometric Mean | | | | 131.4 | | SD of log Data | | | | | 0.487 |
| 92 | Median | | | | 140.5 | | | | | | | |
| 93 | SD | | | | 63.33 | | | | | | | |
| 94 | Std. Error of Mean | | | | 8.176 | | | | | | | |
| 95 | Coefficient of Variation | | | | 0.434 | | | | | | | |
| 96 | Skewness | | | | 0.28 | | | | | | | |
| 97 | | | | | | | | | | | | |
| 98 | **Relevant UCL Statistics** | | | | | | | | | | | |
| 99 | **Normal Distribution Test** | | | | | | **Lognormal Distribution Test** | | | | | |
| 100 | Lilliefors Test Statistic | | | | 0.077 | | Lilliefors Test Statistic | | | | | 0.0901 |
| 101 | Lilliefors Critical Value | | | | 0.114 | | Lilliefors Critical Value | | | | | 0.114 |
| 102 | **Data appear Normal at 5% Significance Level** | | | | | | **Data appear Lognormal at 5% Significance Level** | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 103 | | | | | | | | | | | | |
| 104 | **Assuming Normal Distribution** | | | | | | **Assuming Lognormal Distribution** | | | | | |
| 105 | | | | | 95% Student's-t UCL | 159.7 | | | | | 95% H-UCL | 166.7 |
| 106 | **95% UCLs (Adjusted for Skewness)** | | | | | | | | | | 95% Chebyshev (MVUE) UCL | 190 |
| 107 | | | | | 95% Adjusted-CLT UCL (Chen-1995) | 159.8 | | | | | 97.5% Chebyshev (MVUE) UCL | 208.4 |
| 108 | | | | | 95% Modified-t UCL (Johnson-1978) | 159.8 | | | | | 99% Chebyshev (MVUE) UCL | 244.4 |
| 109 | | | | | | | | | | | | |
| 110 | **Gamma Distribution Test** | | | | | | **Data Distribution** | | | | | |
| 111 | | | | | k star (bias corrected) | 4.652 | **Data appear Normal at 5% Significance Level** | | | | | |
| 112 | | | | | Theta Star | 31.4 | | | | | | |
| 113 | | | | | MLE of Mean | 146.1 | | | | | | |
| 114 | | | | | MLE of Standard Deviation | 67.72 | | | | | | |
| 115 | | | | | nu star | 558.2 | | | | | | |
| 116 | | | | | Approximate Chi Square Value (.05) | 504.4 | **Nonparametric Statistics** | | | | | |
| 117 | | | | | Adjusted Level of Significance | 0.046 | | | | | 95% CLT UCL | 159.5 |
| 118 | | | | | Adjusted Chi Square Value | 503.2 | | | | | 95% Jackknife UCL | 159.7 |
| 119 | | | | | | | | | | | 95% Standard Bootstrap UCL | 159.3 |
| 120 | | | | | Anderson-Darling Test Statistic | 0.449 | | | | | 95% Bootstrap-t UCL | 159.9 |
| 121 | | | | | Anderson-Darling 5% Critical Value | 0.753 | | | | | 95% Hall's Bootstrap UCL | 159.8 |
| 122 | | | | | Kolmogorov-Smirnov Test Statistic | 0.0774 | | | | | 95% Percentile Bootstrap UCL | 159.2 |
| 123 | | | | | Kolmogorov-Smirnov 5% Critical Value | 0.115 | | | | | 95% BCA Bootstrap UCL | 158.9 |
| 124 | **Data appear Gamma Distributed at 5% Significance Level** | | | | | | | | | | 95% Chebyshev(Mean, Sd) UCL | 181.7 |
| 125 | | | | | | | | | | | 97.5% Chebyshev(Mean, Sd) UCL | 197.1 |
| 126 | **Assuming Gamma Distribution** | | | | | | | | | | 99% Chebyshev(Mean, Sd) UCL | 227.4 |
| 127 | | | | | 95% Approximate Gamma UCL (Use when n >= 40) | 161.6 | | | | | | |
| 128 | | | | | 95% Adjusted Gamma UCL (Use when n < 40) | 162 | | | | | | |
| 129 | | | | | | | | | | | | |
| 130 | **Potential UCL to Use** | | | | | | | | | | Use 95% Student's-t UCL | 159.7 |
| 131 | | | | | | | | | | | | |
| 132 | **Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.** | | | | | | | | | | | |
| 133 | **These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)** | | | | | | | | | | | |
| 134 | **and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.** | | | | | | | | | | | |
| 135 | | | | | | | | | | | | |
| 136 | | | | | | | | | | | | |
| 137 | **Lead** | | | | | | | | | | | |
| 138 | | | | | | | | | | | | |
| 139 | **General Statistics** | | | | | | | | | | | |
| 140 | | | | | Number of Valid Data | 60 | | | | | Number of Detected Data | 52 |
| 141 | | | | | Number of Distinct Detected Data | 52 | | | | | Number of Non-Detect Data | 8 |
| 142 | | | | | Number of Missing Values | 6 | | | | | Percent Non-Detects | 13.33% |
| 143 | | | | | | | | | | | | |
| 144 | **Raw Statistics** | | | | | | **Log-transformed Statistics** | | | | | |
| 145 | | | | | Minimum Detected | 2.46 | | | | | Minimum Detected | 0.9 |
| 146 | | | | | Maximum Detected | 438 | | | | | Maximum Detected | 6.082 |
| 147 | | | | | Mean of Detected | 52.66 | | | | | Mean of Detected | 2.773 |
| 148 | | | | | SD of Detected | 97.75 | | | | | SD of Detected | 1.462 |
| 149 | | | | | Minimum Non-Detect | 1.62 | | | | | Minimum Non-Detect | 0.482 |
| 150 | | | | | Maximum Non-Detect | 2.41 | | | | | Maximum Non-Detect | 0.88 |
| 151 | | | | | | | | | | | | |
| 152 | Note: Data have multiple DLs - Use of KM Method is recommended | | | | | | | | | | Number treated as Non-Detect | 8 |
| 153 | For all methods (except KM, DL/2, and ROS Methods), | | | | | | | | | | Number treated as Detected | 52 |
| 154 | Observations < Largest ND are treated as NDs | | | | | | | | | | Single DL Non-Detect Percentage | 13.33% |

| | | |
|---|---|---|
| | **UCL Statistics** | |
| **Normal Distribution Test with Detected Values Only** | | |
| Lilliefors Test Statistic | 0.335 | |
| 5% Lilliefors Critical Value | 0.123 | |
| **Data not Normal at 5% Significance Level** | | |
| **Assuming Normal Distribution** | | |
| DL/2 Substitution Method | | |
| Mean | 45.77 | |
| SD | 92.59 | |
| 95% DL/2 (t) UCL | 65.75 | |
| Maximum Likelihood Estimate(MLE) Method | | |
| Mean | 36.74 | |
| SD | 100.9 | |
| 95% MLE (t) UCL | 58.5 | |
| 95% MLE (Tiku) UCL | 57.27 | |
| **Gamma Distribution Test with Detected Values Only** | | |
| k star (bias corrected) | 0.511 | |
| Theta Star | 103 | |
| nu star | 53.15 | |
| A-D Test Statistic | 3.859 | |
| 5% A-D Critical Value | 0.812 | |
| K-S Test Statistic | 0.812 | |
| 5% K-S Critical Value | 0.13 | |
| **Data not Gamma Distributed at 5% Significance Level** | | |
| **Assuming Gamma Distribution** | | |
| Gamma ROS Statistics using Extrapolated Data | | |
| Minimum | 0.000001 | |
| Maximum | 438 | |
| Mean | 45.64 | |
| Median | 7.91 | |
| SD | 92.65 | |
| k star | 0.222 | |
| Theta star | 205.5 | |
| Nu star | 26.65 | |
| AppChi2 | 15.88 | |
| 95% Gamma Approximate UCL (Use when n >= 40) | 76.59 | |
| 95% Adjusted Gamma UCL (Use when n < 40) | 77.6 | |
| **Note: DL/2 is not a recommended method.** | | |

| | |
|---|---|
| **Lognormal Distribution Test with Detected Values Only** | |
| Lilliefors Test Statistic | 0.126 |
| 5% Lilliefors Critical Value | 0.123 |
| **Data not Lognormal at 5% Significance Level** | |
| **Assuming Lognormal Distribution** | |
| DL/2 Substitution Method | |
| Mean | 2.401 |
| SD | 1.663 |
| 95% H-Stat (DL/2) UCL | 92.07 |
| Log ROS Method | |
| Mean in Log Scale | 2.345 |
| SD in Log Scale | 1.749 |
| Mean in Original Scale | 45.73 |
| SD in Original Scale | 92.61 |
| 95% t UCL | 65.71 |
| 95% Percentile Bootstrap UCL | 66.84 |
| 95% BCA Bootstrap UCL | 71.13 |
| 95% H UCL | 107.7 |
| **Data Distribution Test with Detected Values Only** | |
| **Data do not follow a Discernable Distribution (0.05)** | |
| **Nonparametric Statistics** | |
| Kaplan-Meier (KM) Method | |
| Mean | 45.97 |
| SD | 91.72 |
| SE of Mean | 11.96 |
| 95% KM (t) UCL | 65.95 |
| 95% KM (z) UCL | 65.64 |
| 95% KM (jackknife) UCL | 65.9 |
| 95% KM (bootstrap t) UCL | 75.72 |
| 95% KM (BCA) UCL | 67.46 |
| 95% KM (Percentile Bootstrap) UCL | 67.29 |
| 95% KM (Chebyshev) UCL | 98.09 |
| 97.5% KM (Chebyshev) UCL | 120.6 |
| 99% KM (Chebyshev) UCL | 164.9 |
| **Potential UCLs to Use** | |
| 95% KM (Chebyshev) UCL | 98.09 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 204 | Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. | | | | | | | | | | | |
| 205 | These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006). | | | | | | | | | | | |
| 206 | For additional insight, the user may want to consult a statistician. | | | | | | | | | | | |
| 207 | | | | | | | | | | | | |
| 208 | | | | | | | | | | | | |
| 209 | Mercury | | | | | | | | | | | |
| 210 | | | | | | | | | | | | |
| 211 | General Statistics | | | | | | | | | | | |
| 212 | | | | | | Number of Valid Data | 61 | | | Number of Detected Data | 55 | |
| 213 | | | | | | Number of Distinct Detected Data | 53 | | | Number of Non-Detect Data | 6 | |
| 214 | | | | | | Number of Missing Values | 5 | | | Percent Non-Detects | 9.84% | |
| 215 | | | | | | | | | | | | |
| 216 | Raw Statistics | | | | | | | Log-transformed Statistics | | | | |
| 217 | | | | | | Minimum Detected | 0.0104 | | | Minimum Detected | -4.566 | |
| 218 | | | | | | Maximum Detected | 9.53 | | | Maximum Detected | 2.254 | |
| 219 | | | | | | Mean of Detected | 0.381 | | | Mean of Detected | -2.58 | |
| 220 | | | | | | SD of Detected | 1.316 | | | SD of Detected | 1.507 | |
| 221 | | | | | | Minimum Non-Detect | 0.0125 | | | Minimum Non-Detect | -4.382 | |
| 222 | | | | | | Maximum Non-Detect | 0.0235 | | | Maximum Non-Detect | -3.751 | |
| 223 | | | | | | | | | | | | |
| 224 | Note: Data have multiple DLs - Use of KM Method is recommended | | | | | | | | | Number treated as Non-Detect | 17 | |
| 225 | For all methods (except KM, DL/2, and ROS Methods), | | | | | | | | | Number treated as Detected | 44 | |
| 226 | Observations < Largest ND are treated as NDs | | | | | | | | | Single DL Non-Detect Percentage | 27.87% | |
| 227 | | | | | | | | | | | | |
| 228 | UCL Statistics | | | | | | | | | | | |
| 229 | Normal Distribution Test with Detected Values Only | | | | | | | Lognormal Distribution Test with Detected Values Only | | | | |
| 230 | | | | | | Lilliefors Test Statistic | 0.389 | | | Lilliefors Test Statistic | 0.209 | |
| 231 | | | | | | 5% Lilliefors Critical Value | 0.119 | | | 5% Lilliefors Critical Value | 0.119 | |
| 232 | Data not Normal at 5% Significance Level | | | | | | | Data not Lognormal at 5% Significance Level | | | | |
| 233 | | | | | | | | | | | | |
| 234 | Assuming Normal Distribution | | | | | | | Assuming Lognormal Distribution | | | | |
| 235 | | | | | | DL/2 Substitution Method | | | | DL/2 Substitution Method | | |
| 236 | | | | | | Mean | 0.344 | | | Mean | -2.788 | |
| 237 | | | | | | SD | 1.253 | | | SD | 1.565 | |
| 238 | | | | | | 95% DL/2 (t) UCL | 0.612 | | | 95% H-Stat (DL/2) UCL | 0.355 | |
| 239 | | | | | | | | | | | | |
| 240 | | | | | | Maximum Likelihood Estimate(MLE) Method | | | | Log ROS Method | | |
| 241 | | | | | | Mean | 0.00848 | | | Mean in Log Scale | -2.828 | |
| 242 | | | | | | SD | 1.513 | | | SD in Log Scale | 1.621 | |
| 243 | | | | | | 95% MLE (t) UCL | 0.332 | | | Mean in Original Scale | 0.344 | |
| 244 | | | | | | 95% MLE (Tiku) UCL | 0.341 | | | SD in Original Scale | 1.253 | |
| 245 | | | | | | | | | | 95% t UCL | 0.612 | |
| 246 | | | | | | | | | | 95% Percentile Bootstrap UCL | 0.632 | |
| 247 | | | | | | | | | | 95% BCA Bootstrap UCL | 0.831 | |
| 248 | | | | | | | | | | 95% H UCL | 0.385 | |
| 249 | | | | | | | | | | | | |
| 250 | Gamma Distribution Test with Detected Values Only | | | | | | | Data Distribution Test with Detected Values Only | | | | |
| 251 | | | | | | k star (bias corrected) | 0.397 | Data do not follow a Discernable Distribution (0.05) | | | | |
| 252 | | | | | | Theta Star | 0.96 | | | | | |
| 253 | | | | | | nu star | 43.62 | | | | | |
| 254 | | | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 255 | | | | A-D Test Statistic | 6.402 | **Nonparametric Statistics** | | | | | | |
| 256 | | | | 5% A-D Critical Value | 0.837 | | | | | Kaplan-Meier (KM) Method | | |
| 257 | | | | K-S Test Statistic | 0.837 | | | | | Mean | | 0.345 |
| 258 | | | | 5% K-S Critical Value | 0.128 | | | | | SD | | 1.243 |
| 259 | **Data not Gamma Distributed at 5% Significance Level** | | | | | | | | | SE of Mean | | 0.161 |
| 260 | | | | | | | | | | 95% KM (t) UCL | | 0.613 |
| 261 | **Assuming Gamma Distribution** | | | | | | | | | 95% KM (z) UCL | | 0.609 |
| 262 | Gamma ROS Statistics using Extrapolated Data | | | | | | | | | 95% KM (jackknife) UCL | | 0.613 |
| 263 | | | | Minimum | 0.000001 | | | | | 95% KM (bootstrap t) UCL | | 1.274 |
| 264 | | | | Maximum | 9.53 | | | | | 95% KM (BCA) UCL | | 0.664 |
| 265 | | | | Mean | 0.343 | | | | | 95% KM (Percentile Bootstrap) UCL | | 0.642 |
| 266 | | | | Median | 0.0404 | | | | | 95% KM (Chebyshev) UCL | | 1.045 |
| 267 | | | | SD | 1.253 | | | | | 97.5% KM (Chebyshev) UCL | | 1.347 |
| 268 | | | | k star | 0.266 | | | | | 99% KM (Chebyshev) UCL | | 1.942 |
| 269 | | | | Theta star | 1.29 | | | | | | | |
| 270 | | | | Nu star | 32.47 | **Potential UCLs to Use** | | | | | | |
| 271 | | | | AppChi2 | 20.45 | | | | | 97.5% KM (Chebyshev) UCL | | 1.347 |
| 272 | | | | 95% Gamma Approximate UCL (Use when n >= 40) | 0.545 | | | | | | | |
| 273 | | | | 95% Adjusted Gamma UCL (Use when n < 40) | 0.551 | | | | | | | |
| 274 | **Note: DL/2 is not a recommended method.** | | | | | | | | | | | |
| 275 | | | | | | | | | | | | |
| 276 | **Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.** | | | | | | | | | | | |
| 277 | **These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).** | | | | | | | | | | | |
| 278 | **For additional insight, the user may want to consult a statistician.** | | | | | | | | | | | |
| 279 | | | | | | | | | | | | |
| 280 | | | | | | | | | | | | |
| 281 | **Total PCBs** | | | | | | | | | | | |
| 282 | | | | | | | | | | | | |
| 283 | **General Statistics** | | | | | | | | | | | |
| 284 | | | | Number of Valid Data | 30 | Number of Detected Data | | | | | | 19 |
| 285 | | | | Number of Distinct Detected Data | 19 | Number of Non-Detect Data | | | | | | 11 |
| 286 | | | | Number of Missing Values | 36 | Percent Non-Detects | | | | | | 36.67% |
| 287 | | | | | | | | | | | | |
| 288 | **Raw Statistics** | | | | | **Log-transformed Statistics** | | | | | | |
| 289 | | | | Minimum Detected | 0.0012 | | | | | Minimum Detected | | -6.725 |
| 290 | | | | Maximum Detected | 1.869 | | | | | Maximum Detected | | 0.625 |
| 291 | | | | Mean of Detected | 0.406 | | | | | Mean of Detected | | -2.017 |
| 292 | | | | SD of Detected | 0.492 | | | | | SD of Detected | | 1.944 |
| 293 | | | | Minimum Non-Detect | 0.0004 | | | | | Minimum Non-Detect | | -7.824 |
| 294 | | | | Maximum Non-Detect | 0.336 | | | | | Maximum Non-Detect | | -1.091 |
| 295 | | | | | | | | | | | | |
| 296 | Note: Data have multiple DLs - Use of KM Method is recommended | | | | | | | | | Number treated as Non-Detect | | 21 |
| 297 | For all methods (except KM, DL/2, and ROS Methods), | | | | | | | | | Number treated as Detected | | 9 |
| 298 | Observations < Largest ND are treated as NDs | | | | | | | | | Single DL Non-Detect Percentage | | 70.00% |
| 299 | | | | | | | | | | | | |
| 300 | **UCL Statistics** | | | | | | | | | | | |
| 301 | **Normal Distribution Test with Detected Values Only** | | | | | **Lognormal Distribution Test with Detected Values Only** | | | | | | |
| 302 | | | | Shapiro Wilk Test Statistic | 0.801 | | | | | Shapiro Wilk Test Statistic | | 0.92 |
| 303 | | | | 5% Shapiro Wilk Critical Value | 0.901 | | | | | 5% Shapiro Wilk Critical Value | | 0.901 |
| 304 | **Data not Normal at 5% Significance Level** | | | | | **Data appear Lognormal at 5% Significance Level** | | | | | | |
| 305 | | | | | | | | | | | | |

| | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 306 | **Assuming Normal Distribution** | | | | | | **Assuming Lognormal Distribution** | | | | | |
| 307 | | | | | DL/2 Substitution Method | | | | | | DL/2 Substitution Method | |
| 308 | | | | | Mean | 0.263 | | | | | Mean | -4.129 |
| 309 | | | | | SD | 0.433 | | | | | SD | 3.419 |
| 310 | | | | | 95% DL/2 (t) UCL | 0.397 | | | | | 95% H-Stat (DL/2) UCL | 302.7 |
| 311 | | | | | | | | | | | | |
| 312 | | | | | Maximum Likelihood Estimate(MLE) Method | N/A | | | | | Log ROS Method | |
| 313 | **MLE yields a negative mean** | | | | | | | | | | Mean in Log Scale | -3.559 |
| 314 | | | | | | | | | | | SD in Log Scale | 2.637 |
| 315 | | | | | | | | | | | Mean in Original Scale | 0.258 |
| 316 | | | | | | | | | | | SD in Original Scale | 0.435 |
| 317 | | | | | | | | | | | 95% t UCL | 0.393 |
| 318 | | | | | | | | | | | 95% Percentile Bootstrap UCL | 0.391 |
| 319 | | | | | | | | | | | 95% BCA Bootstrap UCL | 0.412 |
| 320 | | | | | | | | | | | 95% H-UCL | 10.5 |
| 321 | | | | | | | | | | | | |
| 322 | **Gamma Distribution Test with Detected Values Only** | | | | | | **Data Distribution Test with Detected Values Only** | | | | | |
| 323 | | | | | k star (bias corrected) | 0.507 | **Data appear Gamma Distributed at 5% Significance Level** | | | | | |
| 324 | | | | | Theta Star | 0.8 | | | | | | |
| 325 | | | | | nu star | 19.26 | | | | | | |
| 326 | | | | | | | | | | | | |
| 327 | | | | | A-D Test Statistic | 0.384 | **Nonparametric Statistics** | | | | | |
| 328 | | | | | 5% A-D Critical Value | 0.797 | | | | | Kaplan-Meier (KM) Method | |
| 329 | | | | | K-S Test Statistic | 0.797 | | | | | Mean | 0.258 |
| 330 | | | | | 5% K-S Critical Value | 0.209 | | | | | SD | 0.428 |
| 331 | **Data appear Gamma Distributed at 5% Significance Level** | | | | | | | | | | SE of Mean | 0.0802 |
| 332 | | | | | | | | | | | 95% KM (t) UCL | 0.395 |
| 333 | **Assuming Gamma Distribution** | | | | | | | | | | 95% KM (z) UCL | 0.39 |
| 334 | | | | | Gamma ROS Statistics using Extrapolated Data | | | | | | 95% KM (jackknife) UCL | 0.389 |
| 335 | | | | | Minimum | 0.000001 | | | | | 95% KM (bootstrap t) UCL | 0.469 |
| 336 | | | | | Maximum | 1.869 | | | | | 95% KM (BCA) UCL | 0.405 |
| 337 | | | | | Mean | 0.257 | | | | | 95% KM (Percentile Bootstrap) UCL | 0.401 |
| 338 | | | | | Median | 0.0198 | | | | | 95% KM (Chebyshev) UCL | 0.608 |
| 339 | | | | | SD | 0.436 | | | | | 97.5% KM (Chebyshev) UCL | 0.76 |
| 340 | | | | | k star | 0.161 | | | | | 99% KM (Chebyshev) UCL | 1.057 |
| 341 | | | | | Theta star | 1.6 | | | | | | |
| 342 | | | | | Nu star | 9.631 | **Potential UCLs to Use** | | | | | |
| 343 | | | | | AppChi2 | 3.713 | | | | | 95% KM (BCA) UCL | 0.405 |
| 344 | | | | | 95% Gamma Approximate UCL (Use when n >= 40) | 0.666 | | | | | | |
| 345 | | | | | 95% Adjusted Gamma UCL (Use when n < 40) | 0.706 | | | | | | |
| 346 | **Note: DL/2 is not a recommended method.** | | | | | | | | | | | |
| 347 | | | | | | | | | | | | |
| 348 | **Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.** | | | | | | | | | | | |
| 349 | **These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).** | | | | | | | | | | | |
| 350 | **For additional insight, the user may want to consult a statistician.** | | | | | | | | | | | |

# FOCUSED SITE ASSESSMENT REPORT

## FORMER HAMBLETON LUMBER MILL

*Prepared for*

**PORT OF CAMAS-WASHOUGAL**

**WASHOUGAL, WA**

*January 16, 2012*

*Project No. 0229.04.03*

*Prepared by*

*Maul Foster & Alongi, Inc.*

*400 East Mill Plain Blvd., Suite 400*

*Vancouver, WA 98660*

MAUL FOSTER ALONGI

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FOCUSED SITE ASSESSMENT REPORT
**FORMER HAMBLETON LUMBER MILL**

*The material and data in this report were prepared under the supervision and direction of the undersigned.*

**MAUL FOSTER & ALONGI, INC.**


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# CONTENTS

# TABLES AND ILLUSTRATIONS

FOLLOWING REPORT:

TABLES



FIGURES

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# ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| bgs | below ground surface |
| BTEX | benzene, toluene, ethylbenzene, and xylenes |
| CEC | Certified Environmental Consulting, Inc. |
| cPAH | carcinogenic polycyclic aromatic hydrocarbons |
| CUL | cleanup level |
| DRO | diesel-range organic |
| Ecology | Washington State Department of Ecology |
| ESA | environmental site assessment |
| Evren | Evren Northwest, Inc. |
| GRO | gasoline-range organic |
| IHS | indicator hazardous substance |
| MFA | Maul Foster & Alongi, Inc. |
| mg/kg | milligrams per kilogram |
| MTCA | Model Toxics Control Act |
| µg/L | micrograms per liter |
| PAH | polycyclic aromatic hydrocarbon |
| PCB | polychlorinated biphenyl |
| POC | point of compliance |
| the Port | Port of Camas-Washougal |
| Property | former Hambleton Lumber Mill at 335 South A Street, Washougal, Washington |
| RRO | residual-range organic |
| SL | screening level |
| SVOC | semivolatile organic compound |
| TEC | toxicity equivalent concentration |
| USEPA | U.S. Environmental Protection Agency |
| UST | underground storage tank |
| VOC | volatile organic compound |
| WAC | Washington Administrative Code |

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# 1 INTRODUCTION

On behalf of the Port of Camas-Washougal (the Port), Maul Foster & Alongi, Inc. (MFA) has prepared this site assessment report for the former Hambleton Lumber Mill at 335 South A Street, Washougal, Washington (the Property) (see Figure 1). Historically, the Property was used as a lumber mill and activities at the Property included log storage, sawmill, planner, lumber storage and shipping, and other operations ancillary to mill operations.

## 1.1 Regulatory Framework

The Port received an Integrated Planning Grant from the Washington State Department of Ecology (Ecology) to support planning for cleaning up the site and redevelopment of the Property into a revitalized asset for the community. The purpose of this focused site assessment is to characterize the nature and extent of the hazardous substance contamination, evaluate potential risk to human health, and screen potential cleanup alternatives.

## 1.2 Site Assessment Objectives

Historical site assessments identified hazardous substances, including metals, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), and petroleum hydrocarbons and their constituents, in environmental media at the Property. Site assessment objectives included the following:

- Review the results of historical investigations and assess the validity of the data.
- Develop a conceptual site model and data quality objectives for additional site characterization.
- Further characterize the nature and extent of hazardous substances in environmental media above Model Toxic Control Act (MTCA) cleanup levels (CULs) and sources of contamination.
- Evaluate potential risk to current and reasonably likely future human receptors at the Property.
- Evaluate potential cleanup options for impacted media on the Property.

# 2 BACKGROUND

This section describes the physical location and characteristics of the Property, including geology and hydrogeology, and summarizes the site history, including previous investigations.

## 2.1 Site Description

The Property is located in sections 12 and 13 of township 1 north and range 3 east, and section 7 of township 1 north and range 4 east of the Willamette Meridian (see Figure 1). The Property is approximately 1,000 feet long (north-south) and 1,600 feet wide (east-west) and is generally flat, with a slight slope toward the Columbia River (south). The Columbia River is at the Property's southern boundary, at the end of an approximately 32-foot downward slope.

The Property is bordered by State Route 14 to the north and South 2nd Street to the west, with an undeveloped vacant lot to the east. Adjoining properties to the west of 2nd Street are a commercial hotel and a vacant building slated for commercial use. Properties located north of State Route 14 are in mixed commercial, residential, and light industrial use.

The Property is currently vacant of structures after demolition of a lumber mill, shop, office, chemical storage shed, and planer building. Demolition of these structures was generally completed in November 2011. Concrete foundations from the demolished structures remain. The Property is surfaced with asphalt and gravel; however, areas of the Property are covered in woody debris from log storage.

## 2.2 Site History

The Property was occupied by a lumber mill since approximately 1948. The lumber mill operations expanded over the years to occupy most of the Property. The Hambleton Lumber Company originally leased the land from the Port in 1953 and eventually bought the Property in the 1970s. The company operated in a niche market, with approximately 75 percent of the mill production in large-dimension green Douglas fir, hemlock, and spruce timbers.

At one time, the Property contained an equipment mechanical shop, a chemical storage shed, a single-family residence, a mill, a debarker, and a planer building (Figure 2). Wood-treating activities were not conducted on the Property. The debarker burned to the ground in 2009. Because of

economic conditions, the mill closed in 2010. All structures have been removed from the Property.

## 2.3 Previous Investigations

Environmental assessments and investigations were completed at the Property from 2002 through 2009. Previous investigation locations are shown on Figure 3. Environmental concerns identified by MFA are discussed in Section 2.5. The following is a summary of the relevant reports and permits that were reviewed.

**Phase I Environmental Site Assessment (ESA), (Certified Environmental Consulting, Inc. [CEC], 2006)**

This Phase I ESA indicated that the following recognized environmental conditions were present on the Property:

- Three underground storage tanks (USTs) historically were decommissioned on the Property; reportedly, in 2006. The report indicated that one or two of the USTs may have still been present at the Property.
- Aboveground storage tanks were used at the Property.
- Fifty-five-gallon drums of paint with no secondary containment were observed.
- Dry well use.
- Transformers and motors stored throughout the Property.
- Undocumented fill may have included equipment, vehicles and transformers.
- Stained soil from leaking equipment was present on the Property.
- Stormwater from the milling operations was allowed to discharge to the Columbia River.

**Preliminary Work Plan for Log Pond Decommissioning (CEC, 2008)**

The 2008 preliminary work plan for log pond decommissioning describes the log pond construction surface water and sediment sampling, chemicals of interest associated with the analytical results, and proposed methods of decommissioning.

Note that the log pond was not decommissioned.

**DRAFT Initial Independent Cleanup Report and Risk Assessment (CEC, 2009)**

The 2009 initial independent cleanup report and risk assessment summarized environmental investigations completed through 2009. The report also included the findings of a magnetic survey and a subsurface environmental investigation conducted from 2006 through 2009. The report included a discussion of chemicals of interest at the Property, soil and groundwater analytical results, log pond sediment and surface water results, stormwater discharge, and groundwater monitoring results at the Property. The report also summarizes petroleum-impacted soil removal actions south of the equipment mechanical shop.

The magnetic survey and subsequent subsurface investigations did not locate any USTs. The analytical data from this report were used to scope the 2011 site assessment conducted by MFA.

The report recommended decommissioning the log pond, removing surficial soil underlying the mill area, and a subsequent residual risk assessment incorporating these two actions.

## 2.4 Areas Not of Concern

Based on the review of the above CEC reports, MFA identified the following areas where previous investigations were conducted and analytical results indicated that chemicals were below applicable MTCA CULs or impacts above CULs were removed. Therefore, these areas appear to be of no further environmental concern and were not evaluated by MFA in 2011. The areas described below are shown on Figure 2:

- The oil/water separator and associated drain field. Soil and reconnaissance groundwater samples collected from a boring (B6) adjacent to an oil/water separator did not detect chemicals of interest. Data from monitoring well MW3 adjacent to the area of the oil/water system's drain field (i.e., east of the oil/water separator) indicated that metals and VOCs were not present in concentrations exceeding MTCA Method A CULs.

- Magnetic Anomalies M2 through M6. Six magnetic anomalies (M1 through M6) were identified throughout the Property during the geophysical survey conducted in 2006, as shown on Figure 3. The subsurface investigation text indicated that no features or indications of contamination associated with these anomalies were identified. CEC report Figure 11 indicated that M1 contained contaminants above CULs. This is discussed further in Section 2.5.

- Former UST location. A potential former UST location was identified during the 2006 geophysical survey just south of the former shop (CEC, 2009). Soil sampling indicated that gasoline-range organics (GROs) were present in soil above Method A CULs. The soil was excavated and removed from the Property in 2007. The report indicated that the remaining soil did not exceed CULs for petroleum hydrocarbons. However, the 2009 initial independent cleanup report stated that sample B1-070227-S-7 (report Figure 11 indicates that this sample is associated with M1) was collected from the south side of the excavation (CEC, 2009). Sample B1-070227-S-2 was also collected from the south side of the location, but was not shown on the figures. These samples exceeded CULs and are discussed further in Section 2.5.

- Reconnaissance groundwater samples collected north of the shop (boring B8), south of the petroleum storage area (boring B9), and in the aggregate recycling area (boring B15) contained metals above MTCA Method A CULs. Groundwater samples with low turbidity from monitoring wells throughout the Property did not show elevated metals concentrations. Reconnaissance groundwater samples typically have high turbidity, which can cause samples to have high detections of metals. Since monitoring well samples do not have elevated metals detections, it was determined that further characterization for metals in groundwater was not warranted.

## 2.5 Areas of Concern

The areas summarized below are of concern and were investigated in 2011 by MFA. The data presented below are summarized from CEC reports. Figure 3 shows soil exceedances and areas of concern identified through CEC reports. This section also identifies areas of concern that were not assessed by previous investigations.

- Analytical results from soil samples B1-070227S-2 and B1-070227-S-7 (as shown in Tables 1 and 2 in the initial independent cleanup report [CEC, 2009]) indicated that GROs, diesel-range organics (DROs), polycyclic aromatic hydrocarbons (PAHs), and/or metals were present above MTCA Method A CULs. However, there is conflicting information on the locations of the B1 samples. Previous reports indicated that the samples may have been related to: (1) a boring associated with magnetic anomaly M1; (2) samples associated with the south wall of the potential UST pit located south of the shop; and (3) a boring B1 located in the northwest corner of the log storage area. Because of the inconsistencies, these are areas of concern were investigated during the 2011 assessment.

- Surficial soils (within the top 1 to 2 feet below ground surface [bgs]) in areas with high traffic and historical storage have not been previously characterized. Because of surficial impacts in other areas of the Property, it is possible that contaminants could have been tracked to the log storage area or equipment could have leaked.

- Three locations showed evidence of fill activities. These areas were at the southwestern property corner, in the central location east of the mill area, and west of the aggregate recycling area. The aggregate recycling area had been sampled before, but the other fill areas had not been previously investigated.

- The mill area comprises most of the central and southern portions of the Property. Laboratory results from soil collected in the mill operation area reported elevated concentrations of GROs, DROs, residual-range organics (RROs), VOCs, and metals. Exposed soil and a catch basin receiving overland flow from this area had not been evaluated.

- The aggregate recycling area is located in the southeastern corner of the Property; historical environmental documents indicate that this area may have been filled with refuse, including mill operations equipment, vehicles, and/or electrical transformers. As shown in Figure 3, historical samples collected from test pits TP11, TP12, and TP13 contained PCBs, PAHs, and metals above MTCA Method A CULs.

- An open pit reportedly used for stormwater infiltration appears to receive stormwater from the north log storage area and overland flow from the petroleum storage area.

- Overfilling of the log pond with stormwater and logs has reportedly caused the water to overflow. The log pond sediments and surface water are impacted and therefore could result in surface soil impacts south of the log pond.

- There is a stormwater outfall to the Columbia River (see Figure 2). Historical stormwater samples collected from the outfall receiving stormwater from the mill were impacted by turbidity, oil and grease, zinc, and biological oxygen demand above action levels.

- Six groundwater monitoring wells were present on the Property. Groundwater samples historically have been analyzed for VOCs and metals. Analysis had not been conducted for other chemicals detected on the Property, such as petroleum hydrocarbons.

- Sediments and surface water in the log pond. Log pond sediments and surface water samples contained detectable metals, GROs, DROs, VOCs, PAHs, and/or semivolatile organic compounds (SVOCs). The groundwater between the log pond and the Columbia River had been analyzed through reconnaissance sampling but not for all chemicals of interest.

### 2.5.1 Indicator Hazardous Substances

The 2006 through 2009 sample results were compared with MTCA Method A CULs for unrestricted use. CEC also compared sample results to U.S. Environmental Protection Agency (USEPA) Region VI screening levels (SLs) when no MTCA Method A value was available. Detections were all significantly below USEPA Region VI SLs. The following indicator hazardous substances (IHSs) in soil were identified as having exceeded CULs at one or more locations:

- Petroleum hydrocarbons: GROs, DROs and RROs
- PCBs
- Metals: lead and mercury
- PAHs: benzo(a)pyrene, naphthalene, 1- and 2-methylnaphthalene, and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) toxicity equivalent concentrations (TEC)
- VOCs: benzene, ethylbenzene, methylene chloride, tetrachloroethene, and xylene

The following IHSs were identified for water (i.e., groundwater and surface water) after review of log pond surface water and groundwater monitoring well sample results. Sample results from these areas were compared to MTCA Method A CULs:

- Petroleum hydrocarbons: GROs, DROs, and RROs
- PAHs: naphthalene
- Metals: arsenic

All of the IHSs are from log pond surface water sample results. Note that arsenic, cadmium, and lead concentrations in some reconnaissance boring groundwater samples exceeded MTCA Method A CULs; however, these are believed to be the result of high turbidity and are not representative of groundwater on the Property.

## 2.6 Geology and Hydrogeology

The Property is located on Quaternary alluvial deposits composed of coarse-grained outwash deposits (gravel, cobbles, boulders) from the Missoula Floods. These deposits were observed in boring and test pit log depths of up to 45 feet bgs, as discussed in the 2009 independent cleanup and remedial action report (CEC, 2009). The 2009 boring logs also indicated that local fill deposits of up to 6 feet bgs were observed throughout the Property. The fill deposits included construction debris, wood fragments, metal fragments, metal equipment, and glass. These fill deposits were at times intermixed with the local material.

# 3 FIELD AND ANALYTICAL METHODS

The site assessment was broken into two phases. The first phase of soil investigation and groundwater sample collection was conducted in September 2011. This first phase focused on assessing data gaps associated with the areas of concern mentioned above. The data gaps are summarized below:

- Open Pit—the pit received stormwater drainage from the petroleum product storage area and lumber storage area.
- Soil stockpiles—Three stockpiles of unknown content were assessed.
- Planer Building—Paint storage and staining were observed on north and south side and inside of the building.
- Debarker—Surficial staining may have been present from equipment or fire.
- High Traffic and Storage Areas—Surface areas may be surficially impacted from equipment storage or tracking by vehicle traffic.
- Fill Areas—Fill areas in the southwestern corner and central portion near the mill identified during Phase I ESA. Contents and boundaries had not been defined.
- B-1, M1, and Potential UST Pit (south side)—Discrepancy between data tables and figures in 2009 independent cleanup report (CEC, 2009). Sample collected at 2.0 and 7.0 feet bgs contained VOCs, PAHs, GROs, and/or DROs above MTCA Method A CULs.
- Petroleum Storage Area—Surficial soil staining observed during previous investigations and site visits.
- Aggregate Recycling Area—Area where concrete was crushed and used as fill. Historical samples from TP10, TP11, TP12, and TP13 containing PAHs, PCBs, and metals above MTCA Method A CULs. Impacts were not delineated.

- High Traffic / Storage Areas / Aggregate Recycling Area—Areas may be surficially impacted from equipment storage or high traffic; in addition, western extent of the Aggregate Recycling Area not delineated.

- Log Pond Overfill—Overflow of the log pond onto surrounding soil.

- Mill—Surface soil collected from in and around mill contained VOCs, metals, DRO, and RRO greater than MTCA Method A CULs; PAHS and some PCBs were not analyzed.

- Columbia River Sediment—Sediments may have been affected by operations on the Property.

- Groundwater—Groundwater samples from monitoring wells had been analyzed only for metals and VOCs, and had not been analyzed for other chemicals found in soil on the Property.

The second phase of the site investigation included further evaluation of the lateral and vertical extent of IHS impacts to soil, based on analytical results from the first phase and installation and sampling of a new groundwater monitoring well (MW-7). The second phase of the site investigation was conducted in October 2011.

The field and analytical methods are described further below. Figure 4 shows all sample locations. Table 1 summarizes samples collected and analyses conducted during the 2011 site investigation.

## 3.1 Soil Sampling

A summary of soil sample locations, depth and date collected, analysis, and data gaps addressed is presented in Table 1. Twenty-nine test pits were dug with an excavator or by hand from ground surface up to 15 feet bgs (see Figure 4 for sample locations). Boring logs are provided in Appendix A. Twenty-four surface samples, generally from between the surface and 1.5 feet bgs, were collected using hand tools or by excavator. Soil samples from test pits were collected from 0.5 to 10 feet bgs, depending on the data objective.

The stockpile samples (samples SP-1, SP-2, and SP-3) consisted of three subsample aliquots from each stockpile, composited in a clean stainless steel bowl.

The samples were selected for analysis, based on observed impacts, on elevated head-space readings collected with a photoionization detector,

and/or on information from the previous investigations. Tables 1 through 4 summarize soil samples submitted for analysis.

Soil samples were analyzed for chemicals by the following methods:

- GROs by Method NWTPH-Gx with USEPA 5035 sample preparation
- DROs and RROs by Method NWTPH-Dx
- VOCs by USEPA Method 8260B with USEPA Method 5035 sample preparation
- PAHs by USEPA Method 82070C SIM
- Metals by USEPA Method 6020
- PCBs by USEPA Method 8082

## 3.2 Columbia River Sediment Sampling

On September 7, 2011, MFA personnel collected four discrete sediment samples from between the mudline to 10 centimeters below the mudline in the Columbia River immediately adjacent to the Property (see Figure 5). Samples were collected using a mini-PONAR grab sampler from the Property dock and shoreline. Before sampling, the PONAR sampler had been decontaminated following industry standard methods. Samples were transferred from the PONAR sampler to a decontaminated stainless steel sampling bowl and the sediments were homogenized. Sediments were then transferred into laboratory-supplied sampling containers before being placed on ice for shipment to the analytical laboratory. The sediment was analyzed for the following, as summarized on Tables 1 and 5:

- Total solids by USEPA Method 2216
- Total organic carbon by USEPA Southwest Method 9060
- Grain size preparation by ASTM D421 and analysis by ASTM D422
- DROs and RROs by Northwest Method NWTPH-Dx
- VOCs by USEPA Method 8260B with 5035 sample preparation
- PAHs by USEPA Method 82070C SIM
- SVOCs by USEPA Method 8270C
- Metals by USEPA Method 6020
- PCBs by USEPA 8082

## 3.3 Groundwater Sampling

MFA collected groundwater samples from six existing on-site wells at intervals ranging from 30 to 42 feet bgs. Before sampling, the existing monitoring wells (MW-2 through MW-6; see Figure 6) were redeveloped using a Waterra pump. A groundwater sample was collected once groundwater parameters stabilized. Groundwater sampling data sheets are provided in Appendix B. The groundwater samples were collected from existing monitoring wells on September 6 and September 7, 2011.

As stated above in Section 3.0, a groundwater monitoring well (MW-7) was installed on October 27, 2011, between the log pond and the Columbia River to determine if impacts to the log pond were infiltrating to groundwater. The monitoring well was installed at a depth 36 feet bgs, with a 15-foot screen installed between 21 and 36 feet bgs. The well was developed on October 28, 2011, by purging with a Waterra pump until groundwater turbidity measurements were 82.51 nephelometric turbidity units. Over 160 gallons of water was purged before sampling.

Table 6 shows a summary of the groundwater samples collected and the analyses conducted. All groundwater samples were analyzed for GROs by NWTPH-Gx; for DROs and RROs by NWTPH-Dx; and for metals by USEPA Method 6020. The sample from MW-4, which showed petroleum hydrocarbons detections, was also analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by USEPA Method 8260B and for PAHs by USEPA Method 8270C SIM. Because of the proximity to the log pond (see Appendix C for historical log pond analytical data), the groundwater sample collected between the log pond and the Columbia River from MW-7 was also analyzed for SVOCs and VOCs by USEPA Methods 8270C and 8260B, respectively.

# 4 CONCEPTUAL SITE MODEL

The conceptual site model describes potential chemical sources, release mechanisms, environmental transport processes, exposure routes, and receptors. The primary purpose of the conceptual site model is to describe pathways by which human and ecological receptors could be exposed to site-related chemicals. A complete exposure pathway consists of four necessary elements: (1) a source and mechanism of chemical release to the environment, (2) an environmental transport medium for a released chemical, (3) a point of potential contact with the impacted medium (referred to as the exposure point), and (4) an exposure route (e.g., soil ingestion) at the exposure point. Elements of potentially complete exposure scenarios for human health and ecological receptors are discussed below and are presented in Figure 7.

## 4.1 Source Characterization

The Property was used as a lumber mill from approximately 1948 to November 2011. The chemicals of concern on the Property were related mainly to petroleum hydrocarbons. There are no known continuing sources of hazardous-substance releases at the Property. Based on previous investigations, the sources of the contaminants are most likely from surface releases from former site operations, dumping of materials in the aggregate recycling area as fill, and stockpiles. Surface releases from site operations most likely discharged into surface soil and the log pond. Infiltration from the log pond appears to have impacted localized groundwater between the log pond and the Columbia River.

## 4.2 Fate and Transport of Contaminants

The primary mechanisms likely to influence the fate and transport of chemicals at the Property include natural biodegradation of organic chemicals, sorption to soil, advection and dispersion in groundwater, and leaching of chemicals from soil to groundwater. The relative importance of these processes will vary, depending on the chemical and physical properties of a released contaminant. The properties of soil and the dynamics of groundwater flow also shape contaminant fate and transport.

Most of the Property is unpaved, with localized pavement around the mill and shop area. Chemicals with relatively high solubility could leach from soil to pore water, and dissolved chemicals could be transported downward to local groundwater. However, based on groundwater results, it appears that

this does not occur at a significant rate. The log pond collects and holds surface water, which could create a localized area where the artificial head drives contaminates to depth. Once in groundwater, dissolved contaminants could be transported by diffusion and advection away from the original source. Dispersion, retardation, and biodegradation act to reduce dissolved concentrations of chemicals in groundwater downgradient of the source area.

## 4.3 Potential Soil Exposure Scenarios

The Property is currently vacant and was formerly used for industrial purposes. It is likely that in the future the Property will be used for commercial purposes. The Property could be used for numerous commercial and recreational activities, which could potentially include ground floor commercial with retail, restaurants and lodging; and service industries, among other types of commercial use. Portions of the Property may be developed as a park to access the river. Therefore, it is possible that construction workers, commercial workers, and recreationists will occupy the Property at some time in the foreseeable future.

The following future pathways are potentially complete human health exposure pathways:

**On-site commercial workers**—Commercial workers could occupy the Property in the future. It is assumed that future workers could contact chemicals in the top 15 feet of the current ground surface.

The pathways by which future workers could potentially be exposed to chemicals in soil include direct skin contact with soil, incidental ingestion of soil, and inhalation of soil particulates.

**On-site construction workers**—There are currently no construction workers (e.g., excavation workers, trench workers) on the Property. However, construction activities will likely be performed as part of property redevelopment. Construction workers could contact chemicals in soil through incidental ingestion, dermal contact, and inhalation of impacted soil particulates.

**On-site recreational users**—Future development may include recreational uses. The pathways by which a future recreational user could potentially be exposed to chemicals in surface soil include incidental ingestion, dermal contact, or inhalation of soil particulates.

## 4.4 Potential Groundwater Exposure Scenarios

The depth to groundwater occurs between approximately 20 and 37 feet bgs, and flows toward and is assumed to discharge to the Columbia River.

Groundwater impacts were limited to petroleum hydrocarbons near the log pond. Groundwater is not used on the Property. There are no surface water SLs for petroleum hydrocarbons. There is very little likelihood of human or ecological exposure to groundwater beneath the Property.

To ensure that groundwater will not be used in the future, a restrictive covenant on groundwater use could be put in place for the Property. However, it is likely that the petroleum hydrocarbon levels will decrease after the log pond (a likely source of groundwater impacts) is remediated.

## 4.5 Cleanup Standards

According to MTCA, the cleanup standards for a particular site have two primary components: chemical-specific CULs and points of compliance (POCs). The CUL is the concentration of a chemical in a specific environmental medium that will not pose unacceptable risks to human health or the environment. The POC is the location where the CUL must be met.

### 4.5.1 Soil Cleanup Levels

MTCA provides three different options for establishing CULs for human health: Method A, Method B, and Method C. For Methods B and C, either the standard or the modified approach can be used. The standard method uses generic default assumptions to calculate CULs, and the modified method allows for site-specific adjustments to some assumptions when calculating CULs.

MTCA Method A is designed for cleanups at relatively simple sites, such as those that are small and that have only a few hazardous substances. Method B can be used at any site. Method C is used primarily for industrial sites.

The Property historically has been used for industrial purposes but it is anticipated that it will be used for commercial purposes in the future. The Property is impacted mainly with petroleum hydrocarbons and their constituents. The impacts appear to be limited in extent. Therefore, with few exceptions, Method A CULs for unrestricted land use are applied to soil and groundwater as the CULs for the site.

These CULs are calculated using reasonable maximum human health exposure assumptions with target risk levels set at the MTCA acceptable risk level. The MTCA Method A direct-contact CUL for hexavalent chromium is below natural background concentrations in soil. The species of the chromium detected at the site is unknown. Therefore, the natural background concentration of total chromium in Western Washington of 47.4 milligrams per kilogram (mg/kg) (Ecology, 1994) is used as the CUL. In

addition VOCs and PAHs for which Method A CULs are not available were compared to Method B CULs.

Soil CULs for the protection of potable groundwater (leaching to groundwater pathway) are not recommended as potential cleanup targets for soil on the Property because empirical evidence indicates that soil impacts are not causing unacceptable groundwater concentrations.

#### 4.5.1.1 Points of Compliance in Soil

The soil POC is the depth bgs at which soil CULs shall be attained. The standard POC for Method A is soil within 15 feet of the ground surface throughout the entire site. This standard POC is applied to soil on the Property. As discussed below, impacts have not been detected in soil below approximately 4 feet bgs.

### 4.5.2 Groundwater Cleanup Levels

Method A CULs are considered applicable for most chemicals because of site simplicity (e.g., relatively few hazardous substances).

#### 4.5.2.1 Points of Compliance in Groundwater

The POC for groundwater is the entire water-bearing zone at the Property (Washington Administrative Code [WAC] 173-340-720(8)(b)). A conditional POC may be established if it is not practicable to meet the CUL throughout the site within a reasonable restoration time frame (WAC 173-340-720(8)(c)). The proposed conditional POC for groundwater is located in MW-7 at the top of the bank, downgradient of the log pond, along the boundary with the Columbia River.

# 5 RISK SCREENING

IHSs are evaluated below by comparing the concentrations found in soil, groundwater, and sediment to human health and ecological SLs. The data set evaluated includes data collected by MFA in 2011 (included in the discussion below).

The 2011 laboratory analytical results for soil, sediment, and groundwater are included in Appendix D. Appendix E contains the data validation memorandum. All analytical results were evaluated according to applicable sections of USEPA procedures and appropriate laboratory and method-specific guidelines. The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

## 5.1 Soil

Soil concentrations were compared with MTCA Method A CULs and natural background concentrations (see Tables 2 through 4). Chemicals with detections and no MTCA Method A CULs were compared to MTCA Method B CULs. Those chemical concentrations were significantly lower than the MTCA Method B CULs. The nature and extent of these chemicals are described below.

- GRO and DRO concentrations did not exceed MTCA Method A CULs. RROs were detected in soil samples but were below MTCA Method A CULs, except for one sample. RRO concentrations exceeded the Method A CUL of 2,000 mg/kg in the surface soil sample from TP-25, just south of the log pond (see Table 2 and Figure 4). The RRO exceedance was limited to the surface soil sample, as the concentration decreased with depth in TP-25.

- VOCs were not detected above CULs (see Table 3).

- PAHs were not detected above CULs, except in two samples (see Table 4). Both noncarcinogenic and carcinogenic chemicals were analyzed for PAHs. The PAHs classified as cPAHs include benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene. WAC 173-340-708(8) requires that the cPAHs be considered a single hazardous substance and be evaluated using the cPAH total TEC. The cPAH total TEC was

calculated by summing individual TECs for detected cPAHs; for non-detect cPAHs, TECs were calculated using half the method reporting limit. A composite stockpile sample (SP-02) (0.327 mg/kg) located by the Aggregate Recycling Area and TP-23 in a surface soil sample (0.130 mg/kg) south of the log pond detected cPAHs above the Method A CUL of 0.1 mg/kg. Results indicate that cPAH exceedance in TP-23 is limited to the surface soil.

- PCBs generally were not detected above CULs; however, two samples in the aggregate recycling area (TP-16 surface soil and TP-17 at 4 feet bgs) detected PCBs at total levels that exceeded the Method A CUL of 1.0 mg/kg.

- Metals detections did not exceed CULs or natural background concentrations except for lead and mercury. Lead was detected in two locations (three samples) in the aggregate recycling area above CULs. Lead exceedances were in soil samples near the surface and 4.0 feet bgs. Lead detections did not exceed the CUL below 4.0 feet bgs.

  Two mercury detections exceeded the Method A CUL of 2 mg/kg. One sample was from TP-16 at 4 feet bgs (9.53 mg/kg), but concentrations were below CULs in the samples above and below. The other mercury exceedance was in TP-29 surface soil (mg/kg) in the mill area, but a sample at 3.0 feet bgs in TP-29 did not exceed the CUL.

In summary, some concentrations of RROs, lead, mercury, PCBs, and cPAHs are above CULs in a few soil samples near former source areas (log pond overfill area, mill, aggregate recycling area, and a stockpile). The extent of IHS contamination in subsurface soil by the log pond and mill is generally limited to surface soil. Impacts in the aggregate recycling area extend from the surface to approximately 4 feet bgs and are not present by 10.0 feet bgs. Note that fill in the aggregate area extends to approximately 7.0 feet bgs.

As stated above in Section 2.5, historical samples collected in 2006 through 2009 indicated that IHSs were present in surface soil near the mill, soil within the top 4 feet bgs in the aggregate recycling area, and soil within the upper 4 feet bgs at the log pond. Based on our current sampling, chemicals exceeding CULs remain in these areas.

## 5.2 Columbia River Sediment

Four sediment samples collected from the Columbia River are summarized in Table 5 and compared to Ecology 2010 Freshwater Criteria. They were

compared primarily to the Sediment Quality Standards and the Cleanup Screening Level Standard. If no values were available, the data were compared to the Ecology 2003 Freshwater Criteria lowest and second lowest apparent effects threshold (LAET and 2LAET, respectively). No sediment detections exceeded SLs.

Note that one of the sediment samples was collected just beyond the outfall for the Property.

## 5.3 Groundwater

Historical groundwater sampling indicates that VOCs and metals have not impacted groundwater. Groundwater analytical results from 2011 are summarized in Table 6. Groundwater monitoring wells are identified on Figure 6. All groundwater samples were compared with Method A CULs. The nature and extent of chemicals that exceed CULs are described below.

- Petroleum hydrocarbons were not detected in groundwater samples, except from MW-4 and MW-7. The sample from MW-7 exceeded Method A CULs for DROs and RROs at 588 and 591 micrograms per liter (μg/L), respectively. MW-7 is downgradient of the log pond.

- Analysis for VOCs was conducted on the sample from MW-7 and only two compounds were detected, but these were well below their respective Method A CULs. Analysis for BTEX constituents was conducted on the sample from MW-4 because DROs were detected in the sample. However, BTEX were not detected in the groundwater sample from MW-4.

- Analysis for SVOCs was conducted on the samples from MW-7, based on historical detections in the log pond. No SVOCs were present above detection levels in the 2011 samples.

- Analysis for PAHs was conducted on the MW-7 sample because of the petroleum hydrocarbon detections; however, cPAHs were not detected. Phenanthrene was detected in MW-7, but no CULs are associated with it.

- Metals were not detected at or below CULs except for arsenic in the groundwater sample from MW-7. Total arsenic was detected in MW-7 at 5.56 μg/L, which is slightly above the Method A CUL of 5 μg/L. The sample was also analyzed for dissolved arsenic because the sample had high turbidity. Dissolved arsenic was detected at 4.15 μg/L, below the Method A CUL. The

discrepancy between the total and dissolved arsenic concentrations appears to be due to the elevated turbidity in the sample.

DROs and RROs are considered IHSs in groundwater located between the log pond and the Columbia River in MW-7. The concentrations may have been elevated because of high turbidity levels observed during sampling.

As stated above in Section 2.5, historical samples collected in 2006 indicated that IHSs are present in log pond surface water at concentrations above CULs.

## 5.4 Summary

In general, concentrations of IHSs in soil are above CULs in former source areas (log pond sediment, log pond overfill, mill, and aggregate recycling areas) and in one of the stockpiles. Generally, groundwater appears not to be impacted, except for slight petroleum hydrocarbon exceedance near the log pond. Surface water in the log pond exceeded CULs historically. No IHSs associated with the Columbia River sediments were identified.

# 6 CLEANUP ACTION EVALUATION

This section summarizes two remedial alternatives for addressing the contamination identified on the site. These alternatives are not all-inclusive, but represent the most likely cleanup scenarios and encompass a range from highly extensive to limited remedial actions. Depending on the configuration of the development of the Property, additional cleanup alternatives could be developed and evaluated.

## 6.1 Alternative 1: Excavation and Off-site Disposal of Contaminated Soil and Log Pond Sediment

Alternative 1 is the most conservative and costly, and includes the following actions:

- Log Pond
  - Remove (i.e., pump out) log pond liquid, characterize, and dispose of off site at a permitted disposal facility. For cost estimating purposes, the volume of liquid in the log pond is estimated to be approximately 330,000 gallons (the actual volume will vary, depending on the season and amount of precipitation occurring during the remedial action).
  - Excavate impacted log pond sediment to 4 feet bgs (3,300 cubic yards), characterize, and dispose of off site at a permitted disposal facility. For cost estimating purposes and based on the sediment samples collected during the 2009 site investigation, the sediment is assumed to be nonhazardous and not special-listed waste, and disposal at a Subtitle D landfill is also assumed.
  - Backfill log pond with clean, imported fill to existing ground surface and compact to 92 percent compaction, based on the Modified Proctor Test (ASTM D-1557).
- Mill Area
  - Demolish concrete slab to facilitate excavation of underlying impacted soil. The slab is assumed to be reinforced and 12 inches thick.

- Excavate impacted soil to 2 feet bgs (930 cubic yards) and screen on site. The oversize, inert debris and rocks will be placed back in the excavation, while the material that passes through the screen will be characterized and disposed of off site at a permitted disposal facility. For cost estimating purposes, 10 percent of the excavated material was assumed to be oversize and suitable for placement in the bottom of the remedial excavation. Based on soil samples collected the soil is assumed to be nonhazardous and not special-listed waste, and disposal at a Subtitle D landfill is also assumed.

- Aggregate Recycling Area

  - Screen the impacted material stockpiled in the aggregate recycling area (approximately 500 cubic yards). The oversize, inert debris and rocks will be placed back in the excavation, while the material that passes through the screen will be characterized and disposed of off-site at a permitted disposal facility. For cost estimating purposes, 10 percent of the excavated material was assumed to be oversize and suitable for placement in the bottom of the remedial excavation. Based on soil samples collected during the site investigation, the soil is assumed to be non-hazardous and not special-listed waste and may be disposed of at a Subtitle D Landfill.

  - Excavate impacted soil to 7 feet bgs (4,870 cubic yards) and screen on site. The oversize, inert debris and rocks will be placed back in the excavation, while the material that passes through the screen will be characterized and disposed of off site at a permitted disposal facility. For cost estimating purposes, 10 percent of the excavated material was assumed to be oversize and suitable for placement in the bottom of the remedial excavation. Based on soil samples collected during the site investigation, the soil is assumed to be nonhazardous and not special-listed waste, and disposal at a Subtitle D landfill is also assumed.

- Groundwater

  - Employ a restrictive covenant prohibiting the use of groundwater beneath the Property as potable water.

The estimated cost for this alternative is presented in Table 7 following this report. The estimated cost for alternative 1 is $1,436,010.

## 6.2 Alternative 2: Capping and Institutional Controls

Alternative 2 is less costly than alternative 1 and focuses on on-site soil management and capping. Alternative 2 includes the following actions:

- Log Pond
  - Remove (i.e., pump out) log pond liquid, characterize, and dispose of off site at a permitted disposal facility. For cost estimating purposes, the volume of liquid in the log pond is estimated to be approximately 330,000 gallons (the actual volume will vary, depending on the season and amount of precipitation occurring during the remedial action).
  - Consolidate the impacted material stockpiled on site (500 cubic yards) in the log pond and backfill the log pond with unimpacted material stockpiled on site (2,840 cubic yards) and imported backfill (3,180 cubic yards).
- Soil Cap
  - Cap log pond, mill area, and aggregate recycling area with a minimum of 2 feet of clean, imported backfill.[1] Soil cap includes a geotextile demarcation layer and placement of 4,340 cubic yards of clean soil.
  - Implement institutional controls regarding future use of the site. A soil management plan would be developed to outline procedures for maintaining the cap and handling impacted soils during potential future excavation.
- Groundwater
  - Employ a restrictive covenant prohibiting the use of groundwater beneath the site as potable water.

The estimated cost for alternative 2 is presented in Table 8 following this report. The estimated cost for alternative 2 is $439,030.

[1] A 2-foot soil cap may be replaced with a minimum of 6 inches of aggregate base course and 3 inches of asphalt.

# LIMITATIONS

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

# REFERENCES

CEC and Evren. 2006. Phase I Environmental Site Assessment (ESA). Prepared for Hambleton Lumber Company. Prepared by Certified Environmental Consultants, Inc., Vancouver, Washington, and Evren Northwest, Inc., Portland Oregon. July 13.

CEC and Evren. 2008. Preliminary Work Plan for Log Pond Decommissioning. Prepared for Hambleton Lumber Company. Prepared by Certified Environmental Consultants, Inc., Vancouver, Washington, and Evren Northwest, Inc., Portland Oregon. August 8.

CEC and Erven. 2009. DRAFT Initial Independent Cleanup Report and Risk Assessment. Prepared for Hambleton Lumber Company. Prepared by Certified Environmental Consultants, Inc., Vancouver, Washington, and Evren Northwest, Inc., Portland Oregon. October 16.

Ecology. 1994. Natural background soil metals concentrations in Washington State. Publication 94-115. Washington State Department of Ecology, Toxics Cleanup Program. October.

# TABLES

# Table Notes for Data Summaries and Cleanup Levels
# Former Hambleton Lumber Site
# Washougal, Washington

-- = not available.
> = value indicates that toxic level is unknown but is above the concentration shown.
bgs = below ground surface.
**Bold** = values exceed screening criteria.
cm = centimeter(s).
COC = contaminant of concern.
cPAH = carcinogenic PAH, per WAC 173-340-900.
CUL = cleanup level.
DET = detected above laboratory detection limits.
DRO = diesel-range organics.
Ecology = Washington State Department of Ecology.
ESA = environmental site assessment.
ft = feet.
GRO = gasoline-range organics.
HCID = hydrocarbon identification.
HPAH = high-molecular-weight PAH.
IHS = indicator hazardous substance.
J = estimated concentration.
LPAH = low-molecular-weight PAH.
mg/kg = milligrams per kilogram.
mg/L = milligrams per liter.
MTCA = Model Toxics Control Act.
mV = millivolt.
µg/L = micrograms per liter.
µS/cm = microsiemens per centimeter.
NA = not analyzed.
ND = not detected.
NTU = nephelometric turbidity unit.
NV = no value.
PAH = polycyclic aromatic hydrocarbon.
PCB = polychlorinated biphenyl.
RRO = residual-range organics.
SVOC = semivolatile organic compound.
TCLP = toxicity characteristic leaching procedure.
TEC = toxicity equivalent concentration.
TOC = total organic carbon.
TPH = total petroleum hydrocarbons.

U = analyte not detected at or above method reporting limit (MRL). MRL value is posted unless noted otherwise.

UJ = not detected at or above estimated MRL.
UR = not detected at or above rejected MRL.
UST = underground storage tank.
VOC = volatile organic compound.
WAC = Washington Administrative Code.
wt% = percent by weight.
[a]Washington State background concentration for upper 90th percentile for Western Washington.
[b]Washington MTCA Method B used if no MTCA Method A value available.

# Table 1
# Soil Sample and Analysis Summary
# Former Hambleton Lumber Mill
# Washougal, Washington

| | | | | | | | IHSs/COCs Analyzed | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Area | Matrix | Sample Name | Start Depth (ft bgs) | End Depth (ft bgs) | Sample Date | Historical Data Gap | Metals | PCBs | VOCs | TPH | DRO/RRO | GRO | PAHs | SVOCs | Grain size, total solids, TOC |
| Open Pit | Soil | OPEN PIT 1-S-20.5 | 20.5 | 21.5 | 09/15/2011 | Receives stormwater from petroleum product storage area and lumber storage. | x | x | | | | | x | | |
| Stockpiles | Soil | SP-1 | 0.3 | 0.8 | 09/08/2011 | Three stockpiles of unknown content. | x | x | | x | x | | x | | |
| | Soil | SP-2 | 0.3 | 0.8 | 09/08/2011 | | x | x | | x | x | | x | | |
| | Soil | SP-3 | 0.3 | 0.8 | 09/08/2011 | | x | x | | x | x | | x | | |
| Planer Building | Soil | SS-5-1 | 0.5 | 1.5 | 09/07/2011 | Paint and staining observed on north and south side and inside of building. | x | | | | x | | | | |
| | Soil | SS-6-1 | 0.5 | 1.5 | 09/07/2011 | | x | | | | x | | | | |
| | Soil | SS-7-1 | 0.5 | 1.5 | 09/07/2011 | | x | | | | x | | | | |
| Debarker | Soil | SS-15-1 | 0.5 | 1.5 | 09/07/2011 | Surficial staining may have been caused by equipment. | | | | | x | | | | |
| | Soil | SS-16-1 | 0.5 | 1.5 | 09/07/2011 | | x | | | | x | | x | | |
| | Soil | SS-17-1 | 0.5 | 1.5 | 09/07/2011 | | | | | | x | | | | |
| | Soil | SS-18-1 | 0.5 | 1.5 | 09/07/2011 | | | | | | x | | | | |
| | Soil | SS-19-1 | 0.5 | 1.5 | 09/07/2011 | | | | | | x | | | | |
| | Soil | SS-20-1 | 0.5 | 1.5 | 09/07/2011 | | x | | | | x | | | | |
| High Traffic / Storage Areas | Soil | SS-10-1 | 0.5 | 1.5 | 09/07/2011 | Surface areas may be surficially impacted from equipment storage or high traffic. | x | | | | x | | | | |
| | Soil | SS-11-2 | 1.5 | 2.5 | 09/07/2011 | | x | | | | x | | x | | |
| | Soil | SS-12-1 | 0.5 | 1.5 | 09/07/2011 | | x | | | | x | | | | |
| | Soil | SS-13-1 | 0.5 | 1.5 | 09/07/2011 | | x | | | | x | | | | |
| | Soil | SS-2-1.5 | 1.0 | 2.0 | 09/06/2011 | | x | | x | | x | | | | |
| | Soil | SS-3-1 | 0.5 | 1.5 | 09/07/2011 | | x | | | | x | | | | |
| | Soil | SS-4-1 | 0.5 | 1.5 | 09/07/2011 | | x | | | | x | | | | |
| | Soil | SS-8-1 | 0.5 | 1.5 | 09/07/2011 | | x | | x | | x | | | | |
| | Soil | SS-9-1 | 0.5 | 1.5 | 09/07/2011 | | x | | | | x | | | | |
| | Soil | SS-1-1.5 | 1.0 | 2.0 | 09/06/2011 | | x | | | | x | | x | | |

# Table 1
# Soil Sample and Analysis Summary
# Former Hambleton Lumber Mill
# Washougal, Washington

| | | | | | | | IHSs/COCs Analyzed | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Area | Matrix | Sample Name | Start Depth (ft bgs) | End Depth (ft bgs) | Sample Date | Historical Data Gap | Metals | PCBs | VOCs | TPH | DRO/RRO | GRO | PAHs | SVOCs | Grain size, total solids, TOC |
| Fill Area | Soil | TP-1-3 | 2.8 | 3.3 | 09/06/2011 | Fill areas identified during Phase I ESA. Contents and boundaries have not been defined. | | x | | x | x | | x | | |
| | Soil | TP-2-3.5 | 2.0 | 5.0 | 09/06/2011 | | | x | | x | | | x | | |
| | Soil | TP-3-3 | 2.8 | 3.3 | 09/06/2011 | | | x | | x | | | x | | |
| | Soil | TP-4-3 | 2.0 | 4.5 | 09/06/2011 | | x | x | | x | | | x | | |
| | Soil | TP-5-8 | 3.0 | 13.0 | 09/06/2011 | | x | x | | x | x | | x | | |
| | Soil | TP-6-8 | 3.0 | 13.0 | 09/06/2011 | | | x | | x | x | | x | | |
| B-1 , M1, and Potential UST Pit (south side) | Soil | TP-10-2 | 1.8 | 2.3 | 09/07/2011 | Discrepancy between data tables and figures in 2009 independent cleanup report. Samples collected at 2 and 7 ft bgs contained VOCs, PAHs, GRO, and DRO above MTCA Method A CULs. | x | | | | x | x | x | | |
| | Soil | TP-10-7 | 6.8 | 7.3 | 09/07/2011 | | x | | | | x | x | x | | |
| | Soil | TP-11-2 | 1.8 | 2.3 | 09/07/2011 | | x | | | | x | x | x | | |
| | Soil | TP-11-7 | 6.8 | 7.3 | 09/07/2011 | | x | | | | x | x | x | | |
| | Soil | TP-9-2 | 1.8 | 2.3 | 09/07/2011 | | x | | | | x | x | x | | |
| | Soil | TP-9-7 | 6.8 | 7.3 | 09/07/2011 | | x | | | | x | x | x | | |
| Petroleum Storage Area | Soil | SS-14-1 | 0.5 | 1.5 | 09/07/2011 | Surficial soil staining observed during previous investigations and site visits. | x | | x | | x | x | | | |
| | Soil | TP-12-S-1.0 | 0.8 | 1.3 | 10/27/2011 | | x | | x | | x | | | | |
| | Soil | TP-13-S-1.0 | 0.8 | 1.3 | 10/27/2011 | | x | | x | | x | | | | |
| | Soil | TP-14-S-1.0 | 0.8 | 1.3 | 10/27/2011 | | x | | x | | x | | | | |
| | Soil | TP-15-S-1.0 | 0.8 | 1.3 | 10/27/2011 | | x | | x | | x | | | | |

# Table 1
## Soil Sample and Analysis Summary
## Former Hambleton Lumber Mill
## Washougal, Washington

| | | | | | | | IHSs/COCs Analyzed | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Area | Matrix | Sample Name | Start Depth (ft bgs) | End Depth (ft bgs) | Sample Date | Historical Data Gap | Metals | PCBs | VOCs | TPH | DRO/RRO | GRO | PAHs | SVOCs | Grain size, total solids, TOC |
| Aggregate Recycling Area | Soil | TP-16-S-1.5 | 1.3 | 1.8 | 10/27/2011 | Area where concrete was crushed and filled. Historical samples from TP10, TP11, TP12, and TP13 containing PAHs, PCBs, and metals above MTCA Method A CULs. Impacts not delineated. | x | x | | | | | x | | |
| | Soil | TP-16-S-10.0 | 9.8 | 10.3 | 10/27/2011 | | x | x | | | | | x | | |
| | Soil | TP-16-S-4.0 | 3.8 | 4.3 | 10/27/2011 | | x | x | | | | | x | | |
| | Soil | TP-17-S-1.5 | 1.3 | 1.8 | 10/27/2011 | | x | x | | | | | x | | |
| | Soil | TP-17-S-10.0 | 10.3 | 10.3 | 10/27/2011 | | x | x | | | | | x | | |
| | Soil | TP-17-S-4.0 | 3.8 | 4.3 | 10/27/2011 | | x | x | | | | | x | | |
| | Soil | TP-18-S-4.0 | 3.8 | 4.3 | 10/27/2011 | | x | x | | | | | x | | |
| | Soil | TP-19-S-1.5 | 1.3 | 1.8 | 10/28/2011 | | x | x | | | | | x | | |
| | Soil | TP-19-S-3.5 | 3.3 | 3.3 | 10/28/2011 | | x | x | | | | | x | | |
| | Soil | TP-19-S-6.0 | 5.8 | 6.3 | 10/28/2011 | | x | x | | | | | x | | |
| | Soil | TP-20-S-10.0 | 9.8 | 10.3 | 10/28/2011 | | | x | | | | | | | |
| | Soil | TP-20-S-4.0 | 3.8 | 4.3 | 10/28/2011 | | x | x | | | | | x | | |
| | Soil | TP-21-S-4.0 | 3.8 | 4.3 | 10/28/2011 | | x | x | | | | | x | | |
| | Soil | TP-22-S-1.5 | 1.3 | 1.8 | 10/28/2011 | | x | x | | | | | x | | |
| | Soil | TP-22-S-10.0 | 9.8 | 10.3 | 10/28/2011 | | x | x | | | | | x | | |
| | Soil | TP-22-S-3.0 | 2.8 | 3.3 | 10/28/2011 | | x | x | | | | | x | | |
| High Traffic / Storage Areas / Aggregate Recycling Area | Soil | TP-7-2 | 1.0 | 2.0 | 09/06/2011 | Areas may be surficially impacted from equipment storage or high traffic, and western extent of the Aggregate Recycling Area not delineated. | x | | | | x | | | | |
| | Soil | TP-8-1.5 | 1.0 | 2.5 | 09/06/2011 | | x | | | | x | | | | |

# Table 1
## Soil Sample and Analysis Summary
## Former Hambleton Lumber Mill
## Washougal, Washington

| | | | | | | | IHSs/COCs Analyzed | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Area | Matrix | Sample Name | Start Depth (ft bgs) | End Depth (ft bgs) | Sample Date | Historical Data Gap | Metals | PCBs | VOCs | TPH | DRO/RRO | GRO | PAHs | SVOCs | Grain size, total solids, TOC |
| Log Pond Overfill | Soil | SS-22-1 | 0.5 | 1.5 | 09/08/2011 | Overfilling of log pond onto surrounding soil. | x | x | x | | x | x | x | | |
| | Soil | SS-23-1 | 0.5 | 1.5 | 09/08/2011 | | x | x | x | | x | x | x | | |
| | Soil | SS-24-1 | 0.5 | 1.5 | 09/08/2011 | | x | x | x | | x | x | x | | |
| | Soil | TP-23-S-3.0 | 2.8 | 3.3 | 10/28/2011 | | x | | x | | x | x | x | | |
| | Soil | TP-24-S-1.0 | 0.8 | 1.3 | 10/28/2011 | | x | | x | | x | x | x | | |
| | Soil | TP-25-S-1.0 | 0.8 | 1.3 | 10/28/2011 | | x | | x | | x | x | x | | |
| | Soil | TP-25-S-3.0 | 2.8 | 3.3 | 10/28/2011 | | | | | | x | | | | |
| Mill | Soil | SS-21-0.5 | 0.0 | 1.0 | 09/08/2011 | Surface soil collected in and around mill contained VOCs, metals, DRO, and RRO greater than MTCA Method A; PAHs and some PCBs not analyzed. | x | x | x | | x | x | x | | |
| | Soil | TP-26-S-1.0 | 0.8 | 1.3 | 10/28/2011 | | x | x | x | | x | x | x | | |
| | Soil | TP-27-S-1.0 | 0.8 | 1.3 | 10/28/2011 | | x | x | x | | x | x | x | | |
| | Soil | TP-28-S-1.0 | 0.8 | 1.3 | 10/28/2011 | | x | x | x | | x | x | x | | |
| | Soil | TP-29-S-1.0 | 0.8 | 1.3 | 10/28/2011 | | x | x | x | | x | x | x | | |
| | Soil | TP-29-S-3.0 | 2.8 | 3.3 | 10/28/2011 | | x* | | | | | | | | |
| Columbia River | Sediment | Sed-01 | 0 | 0.3 | 09/07/2011 | Sediments not analyzed for impacts from on-site uses. | x | x | | | x | | x | x | x |
| | | Sed-02 | 0 | 0.3 | 09/07/2011 | | x | x | | | x | | x | x | x |
| | | Sed-03 | 0 | 0.3 | 09/07/2011 | | x | x | | | x | | x | x | x |
| | | Sed-04 | 0 | 0.3 | 09/07/2011 | | x | x | | | x | | x | x | x |
| Monitoring Wells | Ground-water | MW-02 | NA | NA | 09/06/2011 | Monitoring wells analyzed only for metals and VOCs. | x* | | | | x | x | | | |
| | | MW-03 | NA | NA | 09/06/2011 | | x* | | | | x | x | | | |
| | | MW-04 | NA | NA | 09/06/2011 | | x* | | x* | | x | x | x | | |
| | | MW-05 | NA | NA | 09/07/2011 | | x* | | | | x | x | | | |
| | | MW-06 | NA | NA | 09/07/2011 | | x* | | | | x | x | | | |
| | | MW-07 | NA | NA | 10/28/2011 | No monitoring well between log pond and Columbia River installed or sampled. | x | | x | | x | x | x | x | |

*Selected analytes only.

# Table 2
## Metal, Polychlorinated Biphenyl, and Petroleum Hydrocarbon Analytical Results in Soil
## Former Hambleton Lumber Mill
## Washougal, Washington

| Area | MTCA Method A Soil CULs— Unrestricted Use | Open Pit | Stockpiles | | | Planer Building | | | Debarker | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Open Pit 1 | SP-01 | SP-02 | SP-03 | SS-05 | SS-06 | SS-07 | SS-15 | SS-16 | SS-17 | SS-18 |
| Date Collected | | 9/15/2011 | 9/8/2011 | 9/8/2011 | 9/8/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 |
| Start Depth (ft) | | 20 | 0.3 | 0.3 | 0.3 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| End Depth (ft) | | 21 | 0.8 | 0.8 | 0.8 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| **Metals (mg/kg)** | | | | | | | | | | | | |
| Arsenic | 20 | 4.31 | 5.52 | 4.44 | 3.55 | 4.93 | 4.55 | 6.71 | -- | 6.07 | -- | -- |
| Barium | NA | 213 J | 76.5 | 70.1 | 65.8 | 214 | 166 | 230 | -- | 234 | -- | -- |
| Cadmium | 2 | 0.118 U | 0.0766 U | 0.0591 U | 0.0683 U | 0.115 U | 0.088 U | 0.102 U | -- | 0.0823 U | -- | -- |
| Chromium | 47.4[a] | 16.1 J | 8.39 | 9.77 | 6.91 | 17.7 | 17.6 | 20.1 | -- | 16.2 | -- | -- |
| Lead | 250 | 7.86 J | 9.33 | 18.8 | 3.07 | 3.2 | 1.76 U | 6.98 | -- | 20.5 | -- | -- |
| Mercury | 2 | 0.03 | 0.0277 | 0.0104 | 0.0381 | 0.232 | 0.0181 | 0.0404 | -- | 0.0625 | -- | -- |
| Selenium | NA | 2.36 U | 1.53 U | 1.18 U | 1.37 U | 2.3 U | 1.76 U | 2.04 U | -- | 1.65 U | -- | -- |
| Silver | NA | 6.18 | 2.32 | 1.77 | 1.73 | 2.3 U | 1.84 | 2.22 | -- | 2.02 | -- | -- |
| **TCLP Metals (mg/L)** | | | | | | | | | | | | |
| Lead | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mercury | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

# Table 2
## Metal, Polychlorinated Biphenyl, and Petroleum Hydrocarbon Analytical Results in Soil
## Former Hambleton Lumber Mill
## Washougal, Washington

| Area | MTCA Method A Soil CULs— Unrestricted Use | Open Pit | Stockpiles | | | Planer Building | | | Debarker | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Open Pit 1 | SP-01 | SP-02 | SP-03 | SS-05 | SS-06 | SS-07 | SS-15 | SS-16 | SS-17 | SS-18 |
| Date Collected | | 9/15/2011 | 9/8/2011 | 9/8/2011 | 9/8/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 |
| Start Depth (ft) | | 20 | 0.3 | 0.3 | 0.3 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| End Depth (ft) | | 21 | 0.8 | 0.8 | 0.8 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| **PCBs (mg/kg)** | | | | | | | | | | | | |
| Aroclor 1016 | NA | 0.00042 U | 0.0004 U | 0.000347 U | 0.00034 U | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1221 | NA | 0.00042 U | 0.0004 U | 0.000347 U | 0.00034 U | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1232 | NA | 0.00042 U | 0.0004 U | 0.000347 U | 0.00034 U | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1242 | NA | 0.00042 U | 0.0004 U | 0.000347 U | 0.00034 U | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1248 | NA | 0.00042 U | 0.0004 U | 0.000347 U | 0.00034 U | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | NA | 0.00042 U | 0.0004 U | 0.000347 U | 0.00034 U | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1260 | NA | 0.0202 | 0.0174 | 0.0194 | 0.00034 U | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1262 | NA | 0.00042 U | 0.0004 U | 0.000347 U | 0.00034 U | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1268 | NA | 0.00042 U | 0.0004 U | 0.000347 U | 0.00034 U | -- | -- | -- | -- | -- | -- | -- |
| Total PCBs | 1 | 0.0202 | 0.0174 | 0.0194 | 0.336 U | -- | -- | -- | -- | -- | -- | -- |
| **TPH (mg/kg)** | | | | | | | | | | | | |
| DRO | 2000 | -- | 17 U | 26.7 | 15.2 U | 20 U | 18.5 U | 33 | 18 U | 17.8 U | 17.1 U | 146 |
| GRO | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| RRO | 2000 | -- | 1010 | 218 | 164 | 66.7 U | 61.6 U | 154 | 60 U | 59.2 U | 57.1 U | 382 |
| **HCIDs (mg/kg)** | | | | | | | | | | | | |
| DRO | NA | -- | DET | ND | ND | -- | -- | -- | -- | -- | -- | -- |
| GRO | NA | -- | ND | ND | ND | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | NA | -- | ND | ND | ND | -- | -- | -- | -- | -- | -- | -- |
| RRO | NA | -- | DET | DET | DET | -- | -- | -- | -- | -- | -- | -- |
| Mineral Spirits | NA | -- | ND | ND | ND | -- | -- | -- | -- | -- | -- | -- |

# Table 2
## Metal, Polychlorinated Biphenyl, and Petroleum Hydrocarbon Analytical Results in Soil
## Former Hambleton Lumber Mill
## Washougal, Washington

| Area | MTCA Method A Soil CULs— Unrestricted Use | Debarker | | High Traffic / Storage Areas | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | SS-19 | SS-20 | SS-01 | SS-02 | SS-03 | SS-04 | SS-08 | SS-09 | SS-10 | SS-11 | SS-12 | SS-13 |
| Date Collected | | 9/7/2011 | 9/7/2011 | 9/6/2011 | 9/6/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 |
| Start Depth (ft) | | 0.5 | 0.5 | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.5 | 0.5 | 0.5 |
| End Depth (ft) | | 1.5 | 1.5 | 2.0 | 2.0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 2.5 | 1.5 | 1.5 |
| **Metals (mg/kg)** | | | | | | | | | | | | | |
| Arsenic | 20 | -- | 10.7 | 2.06 U | 2.22 U | 5.89 | 1.42 | 3.75 | 7.36 | 3.37 | 5.37 | 6.61 | 7.3 |
| Barium | NA | -- | 132 | 147 J | 139 J | 158 | 73.6 | 180 | 242 | 104 | 76.3 | 133 | 78.6 |
| Cadmium | 2 | -- | 0.123 U | 0.103 U | 0.111 U | 0.0867 U | 0.0637 U | 0.0819 U | 0.0972 U | 0.0707 U | 0.107 U | 0.272 | 0.0711 U |
| Chromium | 47.4[a] | -- | 18.3 | 20.2 | 16.9 | 18.2 | 6.02 | 16.4 | 19.9 | 5.94 | 8.28 | 13.7 | 10.7 |
| Lead | 250 | -- | 6.36 | 26.9 | 11.4 | 1.73 U | 4.23 | 2.68 | 6.23 | 3.8 | 7.11 | 42.4 | 5.75 |
| Mercury | 2 | -- | 0.0226 | 0.0281 | 0.0433 | 0.0329 | 0.253 | 0.0247 | 0.0574 | 0.02 | 0.0165 | 0.0566 | 0.0222 |
| Selenium | NA | -- | 2.45 U | 2.06 U | 2.22 U | 1.73 U | 1.27 U | 1.64 U | 1.94 U | 1.41 U | 2.14 U | 2.17 U | 1.42 U |
| Silver | NA | -- | 2.45 U | 2.83 | 10.6 | 1.73 U | 1.73 | 1.64 U | 2.07 | 5.02 | 2.14 U | 2.17 U | 1.43 |
| **TCLP Metals (mg/L)** | | | | | | | | | | | | | |
| Lead | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mercury | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

# Table 2
## Metal, Polychlorinated Biphenyl, and Petroleum Hydrocarbon Analytical Results in Soil
## Former Hambleton Lumber Mill
## Washougal, Washington

| Area | MTCA Method A Soil CULs— Unrestricted Use | Debarker | | High Traffic / Storage Areas | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | SS-19 | SS-20 | SS-01 | SS-02 | SS-03 | SS-04 | SS-08 | SS-09 | SS-10 | SS-11 | SS-12 | SS-13 |
| Date Collected | | 9/7/2011 | 9/7/2011 | 9/6/2011 | 9/6/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 |
| Start Depth (ft) | | 0.5 | 0.5 | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.5 | 0.5 | 0.5 |
| End Depth (ft) | | 1.5 | 1.5 | 2.0 | 2.0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 2.5 | 1.5 | 1.5 |
| **PCBs (mg/kg)** | | | | | | | | | | | | | |
| Aroclor 1016 | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1221 | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1232 | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1242 | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1248 | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1260 | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1262 | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1268 | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Total PCBs | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **TPH (mg/kg)** | | | | | | | | | | | | | |
| DRO | 2000 | 886 | 19.9 U | 67.2 | 44.1 | 18.2 U | 26.1 | 17.7 U | 18.1 U | 16.1 U | 70.9 | 53.2 | 17.1 U |
| GRO | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| RRO | 2000 | 1630 | 76.7 | 304 | 224 | 60.7 U | 180 | 59 U | 82.6 | 53.8 U | 545 | 203 | 56.9 U |
| **HCIDs (mg/kg)** | | | | | | | | | | | | | |
| DRO | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| GRO | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| RRO | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mineral Spirits | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

# Table 2
## Metal, Polychlorinated Biphenyl, and Petroleum Hydrocarbon Analytical Results in Soil
## Former Hambleton Lumber Mill
## Washougal, Washington

| Area | MTCA Method A Soil CULs— Unrestricted Use | Fill Areas | | | | | | B-1 , M1, and Potential UST Pit (south side) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TP-01 | TP-02 | TP-03 | TP-04 | TP-05 | TP-06 | TP-09 | TP-09 | TP-10 | TP-10 | TP-11 | TP-11 |
| Date Collected | | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 |
| Start Depth (ft) | | 2.8 | 2.0 | 2.8 | 2.0 | 3.0 | 3.0 | 1.8 | 6.8 | 1.8 | 6.8 | 1.8 | 6.8 |
| End Depth (ft) | | 3.3 | 5.0 | 3.3 | 4.5 | 13.0 | 13.0 | 2.3 | 7.3 | 2.3 | 7.3 | 2.3 | 7.3 |
| **Metals (mg/kg)** | | | | | | | | | | | | | |
| Arsenic | 20 | -- | -- | -- | 2.53 | 3.88 U | -- | 6.7 | 5.01 | 5.82 | 7.77 | 3.37 | 4.75 |
| Barium | NA | -- | -- | -- | 138 | 186 J | -- | 67.4 | 194 | 255 | 112 | 83.4 | 173 |
| Cadmium | 2 | -- | -- | -- | 0.198 | 0.291 | -- | 0.11 U | 0.116 U | 0.109 U | 0.0936 U | 0.123 U | 0.0987 U |
| Chromium | 47.4[a] | -- | -- | -- | 19.5 | 21.2 | -- | 38.6 | 29.6 | 16.3 | 17.6 | 9.2 | 6.59 |
| Lead | 250 | -- | -- | -- | 12.6 | 46.8 | -- | 21 | 3.05 | 2.18 U | 1.87 U | 17.1 | 1.97 U |
| Mercury | 2 | -- | -- | -- | 0.0487 J | 0.0963 | -- | 0.0662 | 0.0125 U | 0.0543 | 0.128 | 0.0533 | 0.0614 |
| Selenium | NA | -- | -- | -- | 2.33 U | 3.88 U | -- | 2.2 U | 2.32 U | 2.18 U | 1.87 U | 2.47 U | 1.97 U |
| Silver | NA | -- | -- | -- | 2.33 U | 3.88 U | -- | 2.2 U | 2.32 U | 2.32 | 2.54 | 2.89 | 5.03 |
| **TCLP Metals (mg/L)** | | | | | | | | | | | | | |
| Lead | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mercury | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

# Table 2
## Metal, Polychlorinated Biphenyl, and Petroleum Hydrocarbon Analytical Results in Soil
## Former Hambleton Lumber Mill
## Washougal, Washington

| Area | MTCA Method A Soil CULs— Unrestricted Use | Fill Areas | | | | | | B-1 , M1, and Potential UST Pit (south side) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TP-01 | TP-02 | TP-03 | TP-04 | TP-05 | TP-06 | TP-09 | TP-09 | TP-10 | TP-10 | TP-11 | TP-11 |
| Date Collected | | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 |
| Start Depth (ft) | | 2.8 | 2.0 | 2.8 | 2.0 | 3.0 | 3.0 | 1.8 | 6.8 | 1.8 | 6.8 | 1.8 | 6.8 |
| End Depth (ft) | | 3.3 | 5.0 | 3.3 | 4.5 | 13.0 | 13.0 | 2.3 | 7.3 | 2.3 | 7.3 | 2.3 | 7.3 |
| **PCBs (mg/kg)** | | | | | | | | | | | | | |
| Aroclor 1016 | NA | 0.0005 U | 0.0004 U | 0.0005 U | 0.0004 U | 0.0007 U | 0.0006 U | -- | -- | -- | -- | -- | -- |
| Aroclor 1221 | NA | 0.0005 U | 0.0004 U | 0.0005 U | 0.0004 U | 0.0007 U | 0.0006 U | -- | -- | -- | -- | -- | -- |
| Aroclor 1232 | NA | 0.0005 U | 0.0004 U | 0.0005 U | 0.0004 U | 0.0007 U | 0.0006 U | -- | -- | -- | -- | -- | -- |
| Aroclor 1242 | NA | 0.0005 U | 0.0004 U | 0.0005 U | 0.0004 U | 0.0007 U | 0.0006 U | -- | -- | -- | -- | -- | -- |
| Aroclor 1248 | NA | 0.0005 U | 0.0004 U | 0.0005 U | 0.0004 U | 0.0007 U | 0.0006 U | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | NA | 0.0005 U | 0.0004 U | 0.0005 U | 0.0004 U | 0.0007 U | 0.0006 U | -- | -- | -- | -- | -- | -- |
| Aroclor 1260 | NA | 0.0005 U | 0.0004 U | 0.0005 U | 0.0004 U | 0.0007 U | 0.0006 U | -- | -- | -- | -- | -- | -- |
| Aroclor 1262 | NA | 0.0005 U | 0.0004 U | 0.0005 U | 0.0004 U | 0.0007 U | 0.0006 U | -- | -- | -- | -- | -- | -- |
| Aroclor 1268 | NA | 0.0005 U | 0.0004 U | 0.0005 U | 0.0004 U | 0.0007 U | 0.0006 U | -- | -- | -- | -- | -- | -- |
| Total PCBs | 1 | 0.0005 U | 0.0004 U | 0.0005 U | 0.0004 U | 0.0007 U | 0.0006 U | -- | -- | -- | -- | -- | -- |
| **TPH (mg/kg)** | | | | | | | | | | | | | |
| DRO | 2000 | 305 | -- | -- | -- | 185 | 187 | 79.9 | 19.5 U | 19 U | 18 U | 68.7 | 17.8 U |
| GRO | 100 | -- | -- | -- | -- | -- | -- | 5.39 U | 4.42 U | 23.7 | 5.85 U | 7.93 U | 3.48 U |
| RRO | 2000 | 1180 | -- | -- | -- | 662 | 1140 | 475 | 64.9 U | 63.3 U | 59.9 U | 488 | 59.2 U |
| **HCIDs (mg/kg)** | | | | | | | | | | | | | |
| DRO | NA | ND | ND | ND | ND | ND | ND | -- | -- | -- | -- | -- | -- |
| GRO | NA | ND | ND | ND | ND | ND | ND | -- | -- | -- | -- | -- | -- |
| Kerosene | NA | ND | ND | ND | ND | ND | ND | -- | -- | -- | -- | -- | -- |
| RRO | NA | DET | ND | ND | ND | DET | DET | -- | -- | -- | -- | -- | -- |
| Mineral Spirits | NA | ND | ND | ND | ND | ND | ND | -- | -- | -- | -- | -- | -- |

# Table 2
## Metal, Polychlorinated Biphenyl, and Petroleum Hydrocarbon Analytical Results in Soil
## Former Hambleton Lumber Mill
## Washougal, Washington

| Area | MTCA Method A Soil CULs— Unrestricted Use | Petroleum Storage Area | | | | | Aggregate Recycling Area | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | SS-14 | TP-12 | TP-13 | TP-14 | TP-15 | TP-16 | TP-16 | TP-16 | TP-17 | TP-17 |
| Date Collected | | 9/7/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 |
| Start Depth (ft) | | 0.5 | 0.8 | 0.8 | 0.8 | 0.8 | 1.3 | 3.8 | 9.8 | 1.3 | 3.8 |
| End Depth (ft) | | 1.5 | 1.3 | 1.3 | 1.3 | 1.3 | 1.8 | 4.3 | 10.3 | 1.8 | 4.3 |
| **Metals (mg/kg)** | | | | | | | | | | | |
| Arsenic | 20 | 7.15 | 2.84 | 2.82 U | 2.16 U | 2.4 U | 2.62 U | 2.16 U | 2.41 U | 2.8 | 3.53 |
| Barium | NA | 208 | 202 | 151 | 231 | 197 | 161 | 283 | 110 | 195 | 280 |
| Cadmium | 2 | 0.0826 U | 0.115 U | 0.141 U | 0.108 U | 0.12 U | 0.249 | 0.119 | 0.12 U | 0.27 | 0.298 |
| Chromium | 47.4[a] | 15.6 | 20.1 | 17.6 | 19.1 | 18.1 | 20.6 | 19.3 | 16.2 | 29.8 | 30.9 |
| Lead | 250 | 7.96 | 7.41 | 14.6 | 4.68 | 2.46 | **259** | **412** | 2.41 U | 248 | **438** |
| Mercury | 2 | 0.0487 | 0.0306 | 0.0285 | 0.0264 | 0.0229 | 1.12 | **9.53** | 0.0201 | 0.842 | 0.94 |
| Selenium | NA | 1.65 U | 2.3 U | 2.82 U | 2.16 U | 2.4 U | 2.62 U | 2.16 U | 2.41 U | 2.08 U | 2.3 U |
| Silver | NA | 1.76 | 2.3 U | 2.82 U | 2.16 U | 2.4 U | 2.25 U | 2.48 | 2.41 U | 2.08 U | 2.33 |
| **TCLP Metals (mg/L)** | | | | | | | | | | | |
| Lead | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mercury | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

# Table 2
## Metal, Polychlorinated Biphenyl, and Petroleum Hydrocarbon Analytical Results in Soil
## Former Hambleton Lumber Mill
## Washougal, Washington

| Area | MTCA Method A Soil CULs— Unrestricted Use | Petroleum Storage Area | | | | | Aggregate Recycling Area | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | SS-14 | TP-12 | TP-13 | TP-14 | TP-15 | TP-16 | TP-16 | TP-16 | TP-17 | TP-17 |
| Date Collected | | 9/7/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 |
| Start Depth (ft) | | 0.5 | 0.8 | 0.8 | 0.8 | 0.8 | 1.3 | 3.8 | 9.8 | 1.3 | 3.8 |
| End Depth (ft) | | 1.5 | 1.3 | 1.3 | 1.3 | 1.3 | 1.8 | 4.3 | 10.3 | 1.8 | 4.3 |
| **PCBs (mg/kg)** | | | | | | | | | | | |
| Aroclor 1016 | NA | -- | -- | -- | -- | -- | 0.00039 U | 0.00042 U | 0.00043 U | 0.00039 U | 0.00043 U |
| Aroclor 1221 | NA | -- | -- | -- | -- | -- | 0.00039 U | 0.00042 U | 0.00043 U | 0.00039 U | 0.00043 U |
| Aroclor 1232 | NA | -- | -- | -- | -- | -- | 0.00039 U | 0.00042 U | 0.00043 U | 0.00039 U | 0.00043 U |
| Aroclor 1242 | NA | -- | -- | -- | -- | -- | 0.00039 U | 0.00042 U | 0.00043 U | 0.00039 U | 0.00043 U |
| Aroclor 1248 | NA | -- | -- | -- | -- | -- | 0.00039 U | 0.00042 U | 0.00043 U | 0.00039 U | 0.00043 U |
| Aroclor 1254 | NA | -- | -- | -- | -- | -- | 0.819 | 0.00042 U | 0.00043 U | 0.142 | 0.00043 U |
| Aroclor 1260 | NA | -- | -- | -- | -- | -- | 1.05 | 0.0633 | 0.00043 U | 0.21 | 0.763 |
| Aroclor 1262 | NA | -- | -- | -- | -- | -- | 0.00039 U | 0.00042 U | 0.00043 U | 0.00039 U | 0.00043 U |
| Aroclor 1268 | NA | -- | -- | -- | -- | -- | 0.00039 U | 0.00042 U | 0.00043 U | 0.00039 U | 0.00043 U |
| Total PCBs | 1 | -- | -- | -- | -- | -- | **1.869** | 0.0633 | 0.00043 U | 0.352 | 0.763 |
| **TPH (mg/kg)** | | | | | | | | | | | |
| DRO | 2000 | 25.8 | 39.8 | 291 | 19.5 U | 19.4 U | -- | -- | -- | -- | -- |
| GRO | 100 | 30.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| RRO | 2000 | 148 | 70.3 | 491 | 64.9 U | 64.8 U | -- | -- | -- | -- | -- |
| **HCIDs (mg/kg)** | | | | | | | | | | | |
| DRO | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| GRO | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| RRO | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mineral Spirits | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

# Table 2
# Metal, Polychlorinated Biphenyl, and Petroleum Hydrocarbon Analytical Results in Soil
# Former Hambleton Lumber Mill
# Washougal, Washington

| Area | MTCA Method A Soil CULs— Unrestricted Use | Aggregate Recycling Area | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TP-17 | Comp (TP-16 and TP-17) | TP-18 | TP-19 | TP-19 | TP-19 | TP-20 | TP-20 | TP-21 |
| Date Collected | | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 |
| Start Depth (ft) | | 10.3 | NA | 3.8 | 1.3 | 3.3 | 5.8 | 3.8 | 9.8 | 3.8 |
| End Depth (ft) | | 10.3 | NA | 4.3 | 1.8 | 3.3 | 6.3 | 4.3 | 10.3 | 4.3 |
| **Metals (mg/kg)** | | | | | | | | | | |
| Arsenic | 20 | 3.37 | -- | 4.28 | 3.9 | 3.44 | 2.45 U | 2.16 U | -- | 2.09 U |
| Barium | NA | 105 | -- | 205 | 171 | 123 | 239 | 149 | -- | 75.6 |
| Cadmium | 2 | 0.118 U | -- | 0.129 U | 0.28 | 0.225 | 0.123 U | 0.237 | -- | 0.104 U |
| Chromium | 47.4[a] | 14.5 | -- | 24.1 | 18.8 | 16 | 25.2 | 18.2 | -- | 11 |
| Lead | 250 | 2.36 U | -- | 66.2 | 143 | 212 | 10.5 | 178 | -- | 91.4 |
| Mercury | 2 | 0.0192 U | -- | 0.885 | 0.376 | 0.856 | 0.0338 | 0.771 | -- | 0.825 |
| Selenium | NA | 2.36 U | -- | 2.58 U | 2.24 U | 2.05 U | 2.45 U | 2.16 U | -- | 2.09 U |
| Silver | NA | 2.36 U | -- | 2.58 U | 2.24 U | 2.05 U | 2.45 U | 2.16 U | -- | 2.44 |
| **TCLP Metals (mg/L)** | | | | | | | | | | |
| Lead | NA | -- | 0.576 | -- | -- | -- | -- | -- | -- | -- |
| Mercury | NA | -- | 0.001 U | -- | -- | -- | -- | -- | -- | -- |

# Table 2
## Metal, Polychlorinated Biphenyl, and Petroleum Hydrocarbon Analytical Results in Soil
## Former Hambleton Lumber Mill
## Washougal, Washington

| Area | MTCA Method A Soil CULs— Unrestricted Use | Aggregate Recycling Area | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TP-17 | Comp (TP-16 and TP-17) | TP-18 | TP-19 | TP-19 | TP-19 | TP-20 | TP-20 | TP-21 |
| Date Collected | | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 |
| Start Depth (ft) | | 10.3 | NA | 3.8 | 1.3 | 3.3 | 5.8 | 3.8 | 9.8 | 3.8 |
| End Depth (ft) | | 10.3 | NA | 4.3 | 1.8 | 3.3 | 6.3 | 4.3 | 10.3 | 4.3 |
| **PCBs (mg/kg)** | | | | | | | | | | |
| Aroclor 1016 | NA | 0.00041 U | -- | 0.00045 U | 0.00037 U | 0.0004 U | 0.00044 U | 0.00037 U | 0.00039 U | 0.00038 U |
| Aroclor 1221 | NA | 0.00041 U | -- | 0.00045 U | 0.00037 U | 0.0004 U | 0.00044 U | 0.00037 U | 0.00039 U | 0.00038 U |
| Aroclor 1232 | NA | 0.00041 U | -- | 0.00045 U | 0.00037 U | 0.0004 U | 0.00044 U | 0.00037 U | 0.00039 U | 0.00038 U |
| Aroclor 1242 | NA | 0.00041 U | -- | 0.00045 U | 0.00037 U | 0.0004 U | 0.00044 U | 0.00037 U | 0.00039 U | 0.00038 U |
| Aroclor 1248 | NA | 0.00041 U | -- | 0.00045 U | 0.00037 U | 0.0004 U | 0.00044 U | 0.00037 U | 0.00039 U | 0.00038 U |
| Aroclor 1254 | NA | 0.00041 U | -- | 0.00045 U | 0.213 | 0.0004 U | 0.00044 U | 0.00037 U | 0.00039 U | 0.465 |
| Aroclor 1260 | NA | 0.00041 U | -- | 0.0717 | 0.444 | 0.546 | 0.0168 | 1.17 | 0.00118 | 0.387 |
| Aroclor 1262 | NA | 0.00041 U | -- | 0.00045 U | 0.00037 U | 0.0004 U | 0.00044 U | 0.00037 U | 0.00039 U | 0.00038 U |
| Aroclor 1268 | NA | 0.00041 U | -- | 0.00045 U | 0.00037 U | 0.0004 U | 0.00044 U | 0.00037 U | 0.00039 U | 0.00038 U |
| Total PCBs | 1 | 0.00041 U | -- | 0.0717 | 0.657 | 0.546 | 0.0168 | **1.17** | 0.00118 | 0.852 |
| **TPH (mg/kg)** | | | | | | | | | | |
| DRO | 2000 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| GRO | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| RRO | 2000 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **HCIDs (mg/kg)** | | | | | | | | | | |
| DRO | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| GRO | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| RRO | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mineral Spirits | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |

# Table 2
## Metal, Polychlorinated Biphenyl, and Petroleum Hydrocarbon Analytical Results in Soil
## Former Hambleton Lumber Mill
## Washougal, Washington

| Area | MTCA Method A Soil CULs— Unrestricted Use | Aggregate Recycling Area | | | High Traffic / Storage Areas / Aggregate Recycling Area | | Log Pond Overfill | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TP-22 | TP-22 | TP-22 | TP-07 | TP-08 | SS-22 | SS-23 | SS-24 | TP-23 |
| Date Collected | | 10/28/2011 | 10/28/2011 | 10/28/2011 | 9/6/2011 | 9/6/2011 | 9/8/2011 | 9/8/2011 | 9/8/2011 | 10/28/2011 |
| Start Depth (ft) | | 1.3 | 2.8 | 9.8 | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 | 2.8 |
| End Depth (ft) | | 1.8 | 3.3 | 10.3 | 2.0 | 2.0 | 1.5 | 1.5 | 1.5 | 3.3 |
| **Metals (mg/kg)** | | | | | | | | | | |
| Arsenic | 20 | 2.61 | 2.05 U | 2.62 U | 6.09 | 3.51 | 4.88 | 5.12 | 7.13 | 3.18 U |
| Barium | NA | 126 | 33.5 | 141 | 106 J | 238 J | 163 | 65.5 | 95.9 | 92.2 |
| Cadmium | 2 | 0.163 | 0.102 U | 0.183 | 0.214 | 0.111 U | 0.264 | 0.0671 U | 0.0979 U | 0.159 U |
| Chromium | 47.4[a] | 15.4 | 7.39 | 15 | 16.3 | 18.3 | 14.5 | 9.97 | 13.4 | 12.5 |
| Lead | 250 | 12.2 | 40.3 | 94.8 | 24.2 | 5.25 | 4.15 | 14.9 | 9.29 | 4.51 |
| Mercury | 2 | 0.284 | 0.211 | 0.0433 | 0.019 | 0.0314 | 0.0188 U | 0.0738 | 0.0415 | 0.0235 U |
| Selenium | NA | 2.17 U | 2.05 U | 2.62 U | 2.14 U | 2.21 U | 1.82 U | 1.34 U | 1.96 U | 3.18 U |
| Silver | NA | 2.17 U | 2.05 U | 2.62 U | 2.14 U | 2.21 U | 1.82 U | 1.76 | 2.29 | 3.18 U |
| **TCLP Metals (mg/L)** | | | | | | | | | | |
| Lead | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mercury | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |

# Table 2
## Metal, Polychlorinated Biphenyl, and Petroleum Hydrocarbon Analytical Results in Soil
## Former Hambleton Lumber Mill
## Washougal, Washington

| Area | MTCA Method A Soil CULs— Unrestricted Use | Aggregate Recycling Area | | | High Traffic / Storage Areas / Aggregate Recycling Area | | Log Pond Overfill | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TP-22 | TP-22 | TP-22 | TP-07 | TP-08 | SS-22 | SS-23 | SS-24 | TP-23 |
| Date Collected | | 10/28/2011 | 10/28/2011 | 10/28/2011 | 9/6/2011 | 9/6/2011 | 9/8/2011 | 9/8/2011 | 9/8/2011 | 10/28/2011 |
| Start Depth (ft) | | 1.3 | 2.8 | 9.8 | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 | 2.8 |
| End Depth (ft) | | 1.8 | 3.3 | 10.3 | 2.0 | 2.0 | 1.5 | 1.5 | 1.5 | 3.3 |
| **PCBs (mg/kg)** | | | | | | | | | | |
| Aroclor 1016 | NA | 0.00037 U | 0.00037 U | 0.00045 U | -- | -- | 0.00038 U | 0.00035 U | 0.00037 U | -- |
| Aroclor 1221 | NA | 0.00037 U | 0.00037 U | 0.00045 U | -- | -- | 0.00038 U | 0.00035 U | 0.00037 U | -- |
| Aroclor 1232 | NA | 0.00037 U | 0.00037 U | 0.00045 U | -- | -- | 0.00038 U | 0.00035 U | 0.00037 U | -- |
| Aroclor 1242 | NA | 0.00037 U | 0.00037 U | 0.00045 U | -- | -- | 0.00038 U | 0.00035 U | 0.00037 U | -- |
| Aroclor 1248 | NA | 0.00037 U | 0.00037 U | 0.00045 U | -- | -- | 0.00038 U | 0.00035 U | 0.00037 U | -- |
| Aroclor 1254 | NA | 0.12 | 0.153 | 0.00045 U | -- | -- | 0.00038 U | 0.00035 U | 0.00037 U | -- |
| Aroclor 1260 | NA | 0.202 | 0.187 | 0.00045 U | -- | -- | 0.00038 U | 0.0286 | 0.143 | -- |
| Aroclor 1262 | NA | 0.00037 U | 0.00037 U | 0.00045 U | -- | -- | 0.00038 U | 0.00035 U | 0.00037 U | -- |
| Aroclor 1268 | NA | 0.00037 U | 0.00037 U | 0.00045 U | -- | -- | 0.00038 U | 0.00035 U | 0.00037 U | -- |
| Total PCBs | 1 | 0.322 | 0.34 | 0.454 | -- | -- | 0.00038 U | 0.0286 | 0.143 | -- |
| **TPH (mg/kg)** | | | | | | | | | | |
| DRO | 2000 | -- | -- | -- | 16.7 U | 18.6 U | 834 | 207 | 219 | 409 |
| GRO | 100 | -- | -- | -- | -- | -- | 2.82 U | 2.62 U | 2.74 U | -- |
| RRO | 2000 | -- | -- | -- | 676 | 61.9 U | 1470 | 1470 | 1310 | 502 |
| **HCIDs (mg/kg)** | | | | | | | | | | |
| DRO | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| GRO | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| RRO | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mineral Spirits | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |

# Table 2
## Metal, Polychlorinated Biphenyl, and Petroleum Hydrocarbon Analytical Results in Soil
## Former Hambleton Lumber Mill
## Washougal, Washington

| Area | MTCA Method A Soil CULs— Unrestricted Use | Log Pond Overfill | | | Mill | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TP-24 | TP-25 | TP-25 | SS-21 | TP-26 | TP-27 | TP-28 | TP-29 | TP-29 |
| Date Collected | | 10/28/2011 | 10/28/2011 | 10/28/2011 | 9/8/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 |
| Start Depth (ft) | | 0.8 | 0.8 | 2.8 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 | 2.8 |
| End Depth (ft) | | 1.3 | 1.3 | 3.3 | 1.0 | 1.3 | 1.3 | 1.3 | 1.3 | 3.3 |
| **Metals (mg/kg)** | | | | | | | | | | |
| Arsenic | 20 | 2.02 U | 1.62 U | -- | 8.3 | 3.37 | 4.32 | 2.24 | 2 | -- |
| Barium | NA | 140 | 53.8 | -- | 151 | 67 | 102 | 114 | 47.9 | -- |
| Cadmium | 2 | 0.101 U | 0.0812 U | -- | 0.0815 U | 0.122 U | 0.124 U | 0.104 U | 0.352 | -- |
| Chromium | 47.4[a] | 15 | 4.52 | -- | 21.2 | 17.1 | 14.6 | 18.4 | 10.8 | -- |
| Lead | 250 | 20.1 | 1.62 U | -- | 4.85 | 2.88 | 6.79 | 2.94 | 109 | -- |
| Mercury | 2 | 0.0384 | 0.0213 | -- | 0.0111 | 0.0182 U | 0.0194 U | 0.0244 | **2.12** | 0.123 |
| Selenium | NA | 2.02 U | 1.62 U | -- | 1.63 U | 2.44 U | 2.48 U | 2.08 U | 1.95 U | -- |
| Silver | NA | 2.32 | 2.55 | -- | 2.54 | 2.44 U | 2.48 U | 2.08 U | 1.95 U | -- |
| **TCLP Metals (mg/L)** | | | | | | | | | | |
| Lead | NA | -- | -- | -- | -- | -- | -- | -- | 0.432 | -- |
| Mercury | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |

# Table 2
## Metal, Polychlorinated Biphenyl, and Petroleum Hydrocarbon Analytical Results in Soil
## Former Hambleton Lumber Mill
## Washougal, Washington

| Area | MTCA Method A Soil CULs— Unrestricted Use | Log Pond Overfill | | | Mill | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TP-24 | TP-25 | TP-25 | SS-21 | TP-26 | TP-27 | TP-28 | TP-29 | TP-29 |
| Date Collected | | 10/28/2011 | 10/28/2011 | 10/28/2011 | 9/8/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 |
| Start Depth (ft) | | 0.8 | 0.8 | 2.8 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 | 2.8 |
| End Depth (ft) | | 1.3 | 1.3 | 3.3 | 1.0 | 1.3 | 1.3 | 1.3 | 1.3 | 3.3 |
| **PCBs (mg/kg)** | | | | | | | | | | |
| Aroclor 1016 | NA | -- | -- | -- | 0.0004 U | -- | -- | -- | -- | -- |
| Aroclor 1221 | NA | -- | -- | -- | 0.0004 U | -- | -- | -- | -- | -- |
| Aroclor 1232 | NA | -- | -- | -- | 0.0004 U | -- | -- | -- | -- | -- |
| Aroclor 1242 | NA | -- | -- | -- | 0.0004 U | -- | -- | -- | -- | -- |
| Aroclor 1248 | NA | -- | -- | -- | 0.0004 U | -- | -- | -- | -- | -- |
| Aroclor 1254 | NA | -- | -- | -- | 0.0004 U | -- | -- | -- | -- | -- |
| Aroclor 1260 | NA | -- | -- | -- | 0.0004 U | -- | -- | -- | -- | -- |
| Aroclor 1262 | NA | -- | -- | -- | 0.0004 U | -- | -- | -- | -- | -- |
| Aroclor 1268 | NA | -- | -- | -- | 0.0004 U | -- | -- | -- | -- | -- |
| Total PCBs | 1 | -- | -- | -- | 0.0004 U | -- | -- | -- | -- | -- |
| **TPH (mg/kg)** | | | | | | | | | | |
| DRO | 2000 | 17.6 U | 928 | 21.3 | 18.1 U | 19.1 U | 18.6 U | 18.1 U | 83.7 | -- |
| GRO | 100 | -- | -- | -- | 3.02 U | -- | -- | -- | -- | -- |
| RRO | 2000 | 135 | **7920** | 101 | 60.3 U | 63.5 U | 62 U | 60.5 U | 757 | -- |
| **HCIDs (mg/kg)** | | | | | | | | | | |
| DRO | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| GRO | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| RRO | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mineral Spirits | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |

# Table 3
## Volatile Organic Compound Analytical Results in Soil (mg/kg)
## Former Hambleton Lumber Mill
## Washougal, Washington

| | MTCA Method A Soil CULs– Unrestricted Use | High Traffic / Storage Areas | | Petroleum Storage Area | | | | | Log Pond Overfill | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | SS-03 | SS-08 | SS-14 | TP-12 | TP-13 | TP-14 | TP-15 | SS-22 | SS-23 | SS-24 |
| Date Collected | | 9/7/2011 | 9/7/2011 | 9/7/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 9/8/2011 | 9/8/2011 | 9/8/2011 |
| Start Depth (ft) | | 0.5 | 0.5 | 0.5 | 0.8 | 0.8 | 0.8 | 0.8 | 0.5 | 0.5 | 0.5 |
| End Depth (ft) | | 1.5 | 1.5 | 1.5 | 1.3 | 1.3 | 1.3 | 1.3 | 1.5 | 1.5 | 1.5 |
| **VOCs (mg/kg)** | | | | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | 38.46[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,1,1-Trichloroethane | 2 | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,1,2,2-Tetrachloroethane | 5b | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,1,2-Trichloroethane | 17.544[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,1-Dichloroethane | 16000[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,1-Dichloroethene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,1-Dichloropropene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,2,3-Trichlorobenzene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,2,3-Trichloropropane | 0.0333 | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,2,4-Trichlorobenzene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,2,4-Trimethylbenzene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,2-Dibromo-3-chloropropane | NV | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,2-Dibromoethane | NA | 0.0061 U | 0.0059 U | 0.0061 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0056 U | 0.0052 U | 0.0055 U |
| 1,2-Dichlorobenzene | 7200[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,2-Dichloroethane | 10.989[b] | 0.0061 U | 0.0059 U | 0.0061 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0056 U | 0.0052 U | 0.0055 U |
| 1,2-Dichloropropane | NV | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,3,5-Trimethylbenzene | 800[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,3-Dichlorobenzene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,3-Dichloropropane | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 1,4-Dichlorobenzene | NV | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 2,2-Dichloropropane | NV | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 2-Butanone | NA | 0.0243 U | 0.0236 U | 0.0289 J | 0.038 U | 0.127 U | 0.0723 | 0.11 U | 0.0225 U | 0.0209 U | 0.0219 U |

# Table 3
## Volatile Organic Compound Analytical Results in Soil (mg/kg)
## Former Hambleton Lumber Mill
## Washougal, Washington

| | MTCA Method A Soil CULs– Unrestricted Use | High Traffic / Storage Areas | | Petroleum Storage Area | | | | | Log Pond Overfill | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | SS-03 | SS-08 | SS-14 | TP-12 | TP-13 | TP-14 | TP-15 | SS-22 | SS-23 | SS-24 |
| Date Collected | | 9/7/2011 | 9/7/2011 | 9/7/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 9/8/2011 | 9/8/2011 | 9/8/2011 |
| Start Depth (ft) | | 0.5 | 0.5 | 0.5 | 0.8 | 0.8 | 0.8 | 0.8 | 0.5 | 0.5 | 0.5 |
| End Depth (ft) | | 1.5 | 1.5 | 1.5 | 1.3 | 1.3 | 1.3 | 1.3 | 1.5 | 1.5 | 1.5 |
| **VOCs (mg/kg)** | | | | | | | | | | | |
| 2-Chlorotoluene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 2-Hexanone | NA | 0.0243 U | 0.0236 U | 0.0244 UR | 0.019 U | 0.0637 U | 0.0303 U | 0.0552 U | 0.0225 U | 0.0209 U | 0.0219 U |
| 4-Chlorotoluene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 4-Isopropyltoluene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| 4-Methyl-2-pentanone | NA | 0.0243 U | 0.0236 U | 0.0244 UR | 0.038 U | 0.127 U | 0.0607 U | 0.11 U | 0.0225 U | 0.0209 U | 0.0219 U |
| Acetone | 72000[b] | 0.0607 U | 0.16 | 0.163 J | 0.147 | 0.403 | 0.3 | 0.276 U | 0.0564 U | 0.0527 | 0.0548 U |
| Benzene | 0.03 | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Bromobenzene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Bromodichloromethane | 16.13[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Bromoform | 126.582[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Bromomethane | 112 | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Carbon disulfide | 8000[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Carbon tetrachloride | 14.3[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Chlorobenzene | 1600[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Chlorobromomethane | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Chloroethane | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Chloroform | 800[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Chloromethane | NV | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| cis-1,2-Dichloroethene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| cis-1,3-Dichloropropene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |

# Table 3
## Volatile Organic Compound Analytical Results in Soil (mg/kg)
## Former Hambleton Lumber Mill
## Washougal, Washington

| | MTCA Method A Soil CULs– Unrestricted Use | High Traffic / Storage Areas | | Petroleum Storage Area | | | | | Log Pond Overfill | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | SS-03 | SS-08 | SS-14 | TP-12 | TP-13 | TP-14 | TP-15 | SS-22 | SS-23 | SS-24 |
| Date Collected | | 9/7/2011 | 9/7/2011 | 9/7/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 9/8/2011 | 9/8/2011 | 9/8/2011 |
| Start Depth (ft) | | 0.5 | 0.5 | 0.5 | 0.8 | 0.8 | 0.8 | 0.8 | 0.5 | 0.5 | 0.5 |
| End Depth (ft) | | 1.5 | 1.5 | 1.5 | 1.3 | 1.3 | 1.3 | 1.3 | 1.5 | 1.5 | 1.5 |
| **VOCs (mg/kg)** | | | | | | | | | | | |
| Dibromochloromethane | 11.905[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Dibromomethane | NV | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Dichlorodifluoromethane | NV | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Ethylbenzene | 6 | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Hexachlorobutadiene | 12.821[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Isopropylbenzene | NV | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| m,p-Xylene | 16000[b] | 0.0243 U | 0.0236 U | 0.0244 UR | 0.019 U | 0.0637 U | 0.0303 U | 0.0552 U | 0.0225 U | 0.0209 U | 0.0219 U |
| Methyl tert-butyl ether | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Methylene chloride | 0.02 | 0.0607 U | 0.059 U | 0.061 UR | 0.0474 U | 0.159 U | 0.0758 U | 0.138 U | 0.0564 U | 0.0523 U | 0.0548 U |
| Naphthalene | 5 | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| n-Butylbenzene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| n-Propylbenzene | 8000[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| o-Xylene | 16000[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| sec-Butylbenzene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Styrene | 16000 | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| tert-Butylbenzene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Tetrachloroethene | 0.05 | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Toluene | 7 | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| trans-1,2-dichloroethene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| trans-1,3-Dichloropropene | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Trichloroethene | 0.03 | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Trichlorofluoromethane | NA | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |
| Vinyl chloride | 240[b] | 0.0121 U | 0.0118 U | 0.0122 UR | 0.00949 U | 0.0319 U | 0.0152 U | 0.0276 U | 0.0113 U | 0.0105 U | 0.011 U |

# Table 3
## Volatile Organic Compound Analytical Results in Soil (mg/kg)
## Former Hambleton Lumber Mill
## Washougal, Washington

| | MTCA Method A Soil CULs– Unrestricted Use | Log Pond Overfill | | | Mill | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | TP-23 | TP-24 | TP-25 | SS-21 | TP-26 | TP-27 | TP-28 | TP-29 |
| Date Collected | | 10/28/2011 | 10/28/2011 | 10/28/2011 | 9/8/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 |
| Start Depth (ft) | | 2.8 | 0.8 | 0.8 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 |
| End Depth (ft) | | 3.3 | 1.3 | 1.3 | 1.0 | 1.3 | 1.3 | 1.3 | 1.3 |
| **VOCs (mg/kg)** | | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | 38.46[b] | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,1,1-Trichloroethane | 2 | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,1,2,2-Tetrachloroethane | 5b | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,1,2-Trichloroethane | 17.544[b] | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,1-Dichloroethane | 16000[b] | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,1-Dichloroethene | NA | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,1-Dichloropropene | NA | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,2,3-Trichlorobenzene | NA | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,2,3-Trichloropropane | 0.0333 | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,2,4-Trichlorobenzene | NA | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,2,4-Trimethylbenzene | NA | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,2-Dibromo-3-chloropropane | NV | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,2-Dibromoethane | NA | 0.0196 U | 0.0166 U | 0.00947 U | 0.006 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,2-Dichlorobenzene | 7200[b] | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,2-Dichloroethane | 10.989[b] | 0.0196 U | 0.0166 U | 0.00947 U | 0.006 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,2-Dichloropropane | NV | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,3,5-Trimethylbenzene | 800[b] | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,3-Dichlorobenzene | NA | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,3-Dichloropropane | NA | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 1,4-Dichlorobenzene | NV | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 2,2-Dichloropropane | NV | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 2-Butanone | NA | 0.0783 U | 0.0662 U | 0.0379 U | 0.0241 U | 0.0396 U | 0.0665 U | 0.0419 U | 0.0643 U |

# Table 3
## Volatile Organic Compound Analytical Results in Soil (mg/kg)
## Former Hambleton Lumber Mill
## Washougal, Washington

| | MTCA Method A Soil CULs– Unrestricted Use | Log Pond Overfill | | | Mill | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | TP-23 | TP-24 | TP-25 | SS-21 | TP-26 | TP-27 | TP-28 | TP-29 |
| Date Collected | | 10/28/2011 | 10/28/2011 | 10/28/2011 | 9/8/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 |
| Start Depth (ft) | | 2.8 | 0.8 | 0.8 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 |
| End Depth (ft) | | 3.3 | 1.3 | 1.3 | 1.0 | 1.3 | 1.3 | 1.3 | 1.3 |
| **VOCs (mg/kg)** | | | | | | | | | |
| 2-Chlorotoluene | NA | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 2-Hexanone | NA | 0.0392 U | 0.0331 U | 0.223 | 0.0241 U | 0.0198 U | 0.0332 U | 0.0209 U | 0.0322 U |
| 4-Chlorotoluene | NA | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 4-Isopropyltoluene | NA | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| 4-Methyl-2-pentanone | NA | 0.0783 U | 0.0662 U | 0.0379 U | 0.0241 U | 0.0396 U | 0.0665 U | 0.0419 U | 0.0643 U |
| Acetone | 72000[b] | 0.196 U | 0.166 U | 0.116 | 0.0603 U | 0.0991 U | 0.166 U | 0.105 U | 0.161 U |
| Benzene | 0.03 | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Bromobenzene | NA | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Bromodichloromethane | 16.13[b] | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Bromoform | 126.582[b] | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Bromomethane | 112 | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Carbon disulfide | 8000[b] | 0.0196 U | 0.0166 U | 0.0109 | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Carbon tetrachloride | 14.3[b] | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Chlorobenzene | 1600[b] | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Chlorobromomethane | NA | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Chloroethane | NA | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Chloroform | 800[b] | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Chloromethane | NV | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| cis-1,2-Dichloroethene | NA | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| cis-1,3-Dichloropropene | NA | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |

# Table 3
## Volatile Organic Compound Analytical Results in Soil (mg/kg)
## Former Hambleton Lumber Mill
## Washougal, Washington

| | MTCA Method A Soil CULs– Unrestricted Use | Log Pond Overfill | | | Mill | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | TP-23 | TP-24 | TP-25 | SS-21 | TP-26 | TP-27 | TP-28 | TP-29 |
| Date Collected | | 10/28/2011 | 10/28/2011 | 10/28/2011 | 9/8/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 |
| Start Depth (ft) | | 2.8 | 0.8 | 0.8 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 |
| End Depth (ft) | | 3.3 | 1.3 | 1.3 | 1.0 | 1.3 | 1.3 | 1.3 | 1.3 |
| **VOCs (mg/kg)** | | | | | | | | | |
| Dibromochloromethane | 11.905[b] | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Dibromomethane | NV | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Dichlorodifluoromethane | NV | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Ethylbenzene | 6 | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Hexachlorobutadiene | 12.821[b] | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Isopropylbenzene | NV | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| m,p-Xylene | 16000[b] | 0.0392 U | 0.0331 U | 0.0189 U | 0.0241 U | 0.0198 U | 0.0332 U | 0.0209 U | 0.0322 U |
| Methyl tert-butyl ether | NA | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Methylene chloride | 0.02 | 0.0979 U | 0.0828 U | 0.0474 U | 0.0603 U | 0.0495 U | 0.0831 U | 0.0523 U | 0.0804 U |
| Naphthalene | 5 | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| n-Butylbenzene | NA | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| n-Propylbenzene | 8000[b] | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| o-Xylene | 16000[b] | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| sec-Butylbenzene | NA | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Styrene | 16000 | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| tert-Butylbenzene | NA | 0.0196 U | 0.0166 U | 0.0552 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Tetrachloroethene | 0.05 | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Toluene | 7 | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| trans-1,2-dichloroethene | NA | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| trans-1,3-Dichloropropene | NA | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Trichloroethene | 0.03 | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Trichlorofluoromethane | NA | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |
| Vinyl chloride | 240[b] | 0.0196 U | 0.0166 U | 0.00947 U | 0.0121 U | 0.00991 U | 0.0166 U | 0.0105 U | 0.0161 U |

# Table 4
## Polycyclic Aromatic Hydrocarbon Analytical Results in Soil (mg/kg)
## Former Hambleton Lumber Mill
## Washougal, Washington

| | MTCA Method A Soil CULs—Unrestricted Use | Open Pit | Stockpiles | | | Debarker | High Traffic / Storage Areas | | Fill Areas | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | | Open Pit 1 | SP-01 | SP-02 | SP-03 | SS-16 | SS-01 | SS-11 | TP-01 | TP-02 | TP-03 | TP-04 |
| Date Collected | | 9/15/2011 | 9/8/2011 | 9/8/2011 | 9/8/2011 | 9/7/2011 | 9/6/2011 | 9/7/2011 | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/6/2011 |
| Start Depth (ft) | | 20.0 | 0.3 | 0.3 | 0.3 | 0.5 | 1.0 | 1.5 | 2.8 | 2.0 | 2.8 | 2.0 |
| End Depth (ft) | | 21.0 | 0.8 | 0.8 | 0.8 | 1.5 | 2.0 | 2.5 | 3.3 | 5.0 | 3.3 | 4.5 |
| 1-Methylnaphthalene | NV | 0.011 | 0.0076 U | 0.0069 U | 0.00674 U | 0.0395 U | -- | -- | 0.0643 | 0.0084 U | 0.0093 U | 0.0081 U |
| 2-Methylnaphthalene | NV | 0.0144 | 0.0076 U | 0.0069 U | 0.00674 U | 0.0395 U | -- | -- | 0.0698 | 0.0084 U | 0.0093 U | 0.0081 U |
| Acenaphthene | 4800[b] | 0.0085 U | 0.0076 U | 0.0347 U | 0.00674 U | 0.0395 U | 0.0092 J | 0.0094 UJ | 0.0312 | 0.0092 | 0.0093 U | 0.0081 U |
| Acenaphthylene | NA | 0.0093 | 0.0076 U | 0.0347 U | 0.00674 U | 0.0395 U | 0.0126 J | 0.0094 UJ | 0.0211 | 0.0084 U | 0.0093 U | 0.0081 U |
| Anthracene | 24000[b] | 0.0093 | 0.0083 | 0.0347 U | 0.00674 U | 0.0395 U | 0.016 J | 0.0132 J | 0.0092 U | 0.0092 | 0.0093 U | 0.0081 U |
| Benzo(a)anthracene | NV | 0.0246 | 0.0159 | 0.257 | 0.00674 U | 0.0395 U | 0.0311 J | 0.0292 J | 0.022 | 0.0251 | 0.0093 U | 0.0081 U |
| Benzo(a)pyrene | 0.1 | 0.0348 | 0.0363 | **0.232** | 0.00674 U | 0.0395 U | 0.0453 J | 0.0377 J | 0.0202 | 0.0226 | 0.0159 | 0.0081 U |
| Benzo(b)fluoranthene | NV | 0.0484 | 0.0582 | 0.336 | 0.00674 U | 0.0395 U | 0.0512 J | 0.0509 J | 0.0294 | 0.0318 | 0.0177 | 0.0105 |
| Benzo(ghi)perylene | NA | 0.0594 | 0.0537 | 0.142 | 0.00808 | 0.0395 U | 0.0521 J | 0.0339 J | 0.0211 | 0.0201 | 0.0103 | 0.0089 |
| Benzo(k)fluoranthene | NV | 0.0212 | 0.0627 | 0.173 | 0.00674 U | 0.0395 U | 0.0227 J | 0.016 J | 0.0092 U | 0.0084 U | 0.0093 U | 0.0081 U |
| Chrysene | NV | 0.0263 | 0.0378 | 0.298 | 0.00674 U | 0.0395 U | 0.0395 J | 0.0387 J | 0.0331 | 0.0461 | 0.0299 | 0.0097 |
| Dibenzo(a,h)anthracene | NV | 0.017 | 0.0076 U | 0.0347 U | 0.00674 U | 0.0395 U | 0.0084 UJ | 0.0094 UJ | 0.0092 U | 0.0084 U | 0.0093 U | 0.0081 U |
| Fluoranthene | 3200[b] | 0.0221 | 0.0242 | 0.267 | 0.00674 U | 0.0395 U | 0.0563 J | 0.0679 J | 0.0275 | 0.0394 | 0.0093 U | 0.0113 |
| Fluorene | 3200[b] | 0.0085 U | 0.0076 U | 0.0347 U | 0.00674 U | 0.0395 U | 0.0092 J | 0.0094 UJ | 0.0211 | 0.0084 U | 0.0093 U | 0.0081 U |
| Indeno(1,2,3-cd)pyrene | NV | 0.034 | 0.0265 | 0.139 | 0.00674 U | 0.0395 U | 0.0411 J | 0.0236 J | 0.0101 | 0.0142 | 0.0093 U | 0.0081 U |
| Naphthalene | 5 | 0.0136 | 0.0076 U | 0.0069 U | 0.00674 U | 0.0395 U | 0.026 J | 0.0094 UJ | 0.0716 | 0.0084 U | 0.0093 U | 0.0081 U |
| Phenanthrene | NA | 0.0102 | 0.0159 | 0.0347 U | 0.00674 U | 0.0395 U | 0.063 J | 0.0547 J | 0.0331 | 0.0343 | 0.0093 U | 0.0081 U |
| Pyrene | 2400[b] | 0.0221 | 0.0378 | 0.388 | 0.00674 U | 0.0395 U | 0.0512 J | 0.0509 J | 0.0441 | 0.0586 | 0.0093 U | 0.0129 |
| cPAH TEC | 0.1 | 0.050 | 0.053 | **0.327** | 0.005 | 0.030 | 0.061 | 0.051 | 0.028 | 0.031 | 0.020 | 0.007 |

# Table 4
## Polycyclic Aromatic Hydrocarbon Analytical Results in Soil (mg/kg)
## Former Hambleton Lumber Mill
## Washougal, Washington

| | MTCA Method A Soil CULs—Unrestricted Use | Fill Areas | | B-1 , M1, and Potential UST Pit (south side) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | TP-05 | TP-06 | TP-09 | TP-09 | TP-10 | TP-10 | TP-11 | TP-11 |
| Date Collected | | 9/6/2011 | 9/6/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 | 9/7/2011 |
| Start Depth (ft) | | 3.0 | 3.0 | 1.8 | 6.8 | 1.8 | 6.8 | 1.8 | 6.8 |
| End Depth (ft) | | 13.0 | 13.0 | 2.3 | 7.3 | 2.3 | 7.3 | 2.3 | 7.3 |
| 1-Methylnaphthalene | NV | 0.0145 U | 0.011 U | 0.0088 U | 0.0087 U | 0.0084 U | 0.008 U | 0.0118 U | 0.0079 U |
| 2-Methylnaphthalene | NV | 0.0145 U | 0.011 U | 0.0088 U | 0.0104 | 0.0084 U | 0.008 U | 0.0118 U | 0.0079 U |
| Acenaphthene | 4800[b] | 0.0145 U | 0.011 U | 0.0088 U | 0.0087 U | 0.0084 U | 0.008 U | 0.0118 U | 0.0079 U |
| Acenaphthylene | NA | 0.0145 U | 0.011 U | 0.0088 U | 0.0087 U | 0.0084 U | 0.008 U | 0.0118 U | 0.0079 U |
| Anthracene | 24000[b] | 0.0145 U | 0.011 U | 0.0088 U | 0.0571 | 0.0084 U | 0.008 U | 0.0118 U | 0.0079 U |
| Benzo(a)anthracene | NV | 0.0145 U | 0.022 | 0.0159 | 0.0623 | 0.0084 U | 0.008 U | 0.0154 | 0.0079 U |
| Benzo(a)pyrene | 0.1 | 0.0145 U | 0.0231 | 0.015 | 0.032 | 0.0084 U | 0.008 U | 0.013 | 0.0079 U |
| Benzo(b)fluoranthene | NV | 0.0188 | 0.0342 | 0.022 | 0.0173 | 0.0084 U | 0.008 U | 0.0261 | 0.0079 U |
| Benzo(ghi)perylene | NA | 0.0145 U | 0.0264 | 0.0159 | 0.0216 | 0.0084 U | 0.008 U | 0.0261 | 0.0079 U |
| Benzo(k)fluoranthene | NV | 0.0145 U | 0.0121 | 0.0097 | 0.0087 U | 0.0084 U | 0.008 U | 0.0154 | 0.0079 U |
| Chrysene | NV | 0.0217 | 0.0342 | 0.0141 | 0.0701 | 0.0084 U | 0.008 U | 0.0272 | 0.0079 U |
| Dibenzo(a,h)anthracene | NV | 0.0145 U | 0.011 U | 0.0088 U | 0.0087 U | 0.0084 U | 0.008 U | 0.0118 U | 0.0079 U |
| Fluoranthene | 3200[b] | 0.0145 U | 0.0209 | 0.0159 | 0.0693 | 0.0084 U | 0.008 U | 0.0154 | 0.0079 U |
| Fluorene | 3200[b] | 0.0145 U | 0.011 U | 0.0088 U | 0.0095 | 0.0084 U | 0.008 U | 0.0118 U | 0.0079 U |
| Indeno(1,2,3-cd)pyrene | NV | 0.0145 U | 0.0154 | 0.0159 | 0.0087 U | 0.0084 U | 0.008 U | 0.0166 | 0.0079 U |
| Naphthalene | 5 | 0.0145 U | 0.011 U | 0.0088 U | 0.0087 U | 0.0211 | 0.008 U | 0.0118 U | 0.0079 U |
| Phenanthrene | NA | 0.0145 U | 0.0187 | 0.03 | 0.48 | 0.0084 U | 0.008 U | 0.013 | 0.0079 U |
| Pyrene | 2400[b] | 0.0145 U | 0.0309 | 0.0326 | 0.371 | 0.0084 U | 0.008 U | 0.0249 | 0.0079 U |
| cPAH TEC | 0.1 | 0.012 | 0.032 | 0.022 | 0.042 | 0.006 | 0.006 | 0.021 | 0.006 |

# Table 4
## Polycyclic Aromatic Hydrocarbon Analytical Results in Soil (mg/kg)
## Former Hambleton Lumber Mill
## Washougal, Washington

| | MTCA Method A Soil CULs—Unrestricted Use | Aggregate Recycling Area | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TP-16 | TP-16 | TP-16 | TP-17 | TP-17 | TP-17 | TP-18 | TP-19 | TP-19 |
| Date Collected | | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/27/2011 | 10/28/2011 | 10/28/2011 |
| Start Depth (ft) | | 1.3 | 3.8 | 9.8 | 1.3 | 3.8 | 10.3 | 3.8 | 1.3 | 3.3 |
| End Depth (ft) | | 1.8 | 4.3 | 10.3 | 1.8 | 4.3 | 10.3 | 4.3 | 1.8 | 3.3 |
| 1-Methylnaphthalene | NV | 0.0078 U | 0.00834 U | 0.00867 U | 0.0158 U | 0.0231 | 0.00817 U | 0.00897 U | 0.00747 U | 0.00791 U |
| 2-Methylnaphthalene | NV | 0.00936 | 0.00917 | 0.00954 | 0.0221 | 0.00857 U | 0.00817 U | 0.00897 U | 0.00747 U | 0.00791 U |
| Acenaphthene | 4800[b] | 0.0078 U | 0.00834 U | 0.00867 U | 0.0237 | 0.0943 | 0.00817 U | 0.0134 | 0.00747 U | 0.00791 U |
| Acenaphthylene | NA | 0.0125 | 0.0125 | 0.00867 U | 0.0221 | 0.0274 | 0.00817 U | 0.00897 U | 0.0127 | 0.0174 |
| Anthracene | 24000[b] | 0.0179 | 0.0192 | 0.00867 U | 0.0394 | 0.0514 | 0.00817 U | 0.0134 | 0.0209 | 0.0198 |
| Benzo(a)anthracene | NV | 0.0273 | 0.0358 | 0.00867 U | 0.0536 | 0.0934 | 0.00817 U | 0.0367 | 0.0299 | 0.049 |
| Benzo(a)pyrene | 0.1 | 0.0468 | 0.0533 | 0.0121 | 0.0505 | 0.0608 | 0.00817 U | 0.0323 | 0.0336 | 0.0609 |
| Benzo(b)fluoranthene | NV | 0.0702 | 0.0617 | 0.0173 | 0.0868 | 0.078 | 0.00817 U | 0.0484 | 0.0567 | 0.0854 |
| Benzo(ghi)perylene | NA | 0.0437 | 0.0658 | 0.013 | 0.0521 | 0.00857 U | 0.00817 U | 0.0278 | 0.0299 | 0.0561 |
| Benzo(k)fluoranthene | NV | 0.0164 | 0.0225 | 0.00867 U | 0.0284 | 0.0771 | 0.00817 U | 0.0152 | 0.0134 | 0.0182 |
| Chrysene | NV | 0.0234 | 0.0358 | 0.00867 U | 0.0552 | 0.133 | 0.00817 U | 0.0305 | 0.0321 | 0.0435 |
| Dibenzo(a,h)anthracene | NV | 0.0078 U | 0.0233 | 0.00867 U | 0.0221 | 0.00857 U | 0.00817 U | 0.00897 U | 0.00747 U | 0.0166 |
| Fluoranthene | 3200[b] | 0.0421 | 0.0525 | 0.00867 U | 0.155 | 0.214 | 0.00817 U | 0.0923 | 0.0515 | 0.0696 |
| Fluorene | 3200[b] | 0.0078 U | 0.00834 U | 0.00867 U | 0.0158 U | 0.0249 | 0.00817 U | 0.00897 U | 0.00747 U | 0.00791 U |
| Indeno(1,2,3-cd)pyrene | NV | 0.0273 | 0.045 | 0.00867 U | 0.0331 | 0.00857 U | 0.00817 U | 0.0197 | 0.0231 | 0.0435 |
| Naphthalene | 5 | 0.0172 | 0.0183 | 0.00867 U | 0.0268 | 0.0343 | 0.00817 U | 0.00897 U | 0.0119 | 0.015 |
| Phenanthrene | NA | 0.025 | 0.0308 | 0.00867 U | 0.0552 | 0.0857 | 0.00817 U | 0.0341 | 0.0299 | 0.0316 |
| Pyrene | 2400[b] | 0.0647 | 0.0742 | 0.013 | 0.216 | 0.171 | 0.00817 U | 0.0896 | 0.0761 | 0.0996 |
| cPAH TEC | 0.1 | 0.062 | 0.072 | 0.016 | 0.073 | 0.088 | 0.006 | 0.045 | 0.047 | 0.083 |

# Table 4
## Polycyclic Aromatic Hydrocarbon Analytical Results in Soil (mg/kg)
## Former Hambleton Lumber Mill
## Washougal, Washington

| | MTCA Method A Soil CULs—Unrestricted Use | Aggregate Recycling Area | | | | | | Log Pond Overfill | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Location | | TP-19 | TP-20 | TP-21 | TP-22 | TP-22 | TP-22 | SS-22 | SS-23 | TP-23 |
| Date Collected | | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 9/8/2011 | 9/8/2011 | 10/28/2011 |
| Start Depth (ft) | | 5.8 | 3.8 | 3.8 | 1.3 | 2.8 | 9.8 | 0.5 | 0.5 | 2.8 |
| End Depth (ft) | | 6.3 | 4.3 | 4.3 | 1.8 | 3.3 | 10.3 | 1.5 | 1.5 | 3.3 |
| 1-Methylnaphthalene | NV | 0.00883 U | 0.00749 U | 0.00751 U | 0.00739 U | 0.00737 U | 0.00909 U | 0.00752 U | 0.0202 | 1.43 |
| 2-Methylnaphthalene | NV | 0.00883 U | 0.00973 | 0.0105 | 0.0155 | 0.0177 | 0.00909 U | 0.00752 U | 0.023 | 1.56 |
| Acenaphthene | 4800[b] | 0.00883 U | 0.0621 | 0.00751 U | 0.00739 U | 0.00737 U | 0.00909 U | 0.00752 U | 0.00698 U | 5.87 |
| Acenaphthylene | NA | 0.00883 U | 0.018 | 0.0195 | 0.0391 | 0.0317 | 0.00909 U | 0.00752 U | 0.0356 | 0.0318 |
| Anthracene | 24000[b] | 0.00883 U | 0.0546 | 0.0285 | 0.0628 | 0.0457 | 0.00909 U | 0.00752 U | 0.0711 | 0.781 |
| Benzo(a)anthracene | NV | 0.00883 U | 0.0658 | 0.0458 | 0.0288 | 0.0309 | 0.00909 U | 0.00752 U | 0.0662 | 0.0255 |
| Benzo(a)pyrene | 0.1 | 0.00883 U | 0.0688 | 0.0638 | 0.045 | 0.0501 | 0.00909 U | 0.00752 U | **0.109** | 0.0276 |
| Benzo(b)fluoranthene | NV | 0.00883 U | 0.098 | 0.0818 | 0.0709 | 0.0678 | 0.0136 | 0.00752 U | 0.0558 | 0.0382 |
| Benzo(ghi)perylene | NA | 0.00883 U | 0.0569 | 0.0631 | 0.062 | 0.0634 | 0.00909 U | 0.00752 U | 0.0216 | 0.0106 U |
| Benzo(k)fluoranthene | NV | 0.00883 U | 0.0195 | 0.0203 | 0.0096 | 0.0243 | 0.00909 U | 0.00752 U | 0.0669 | 0.0117 |
| Chrysene | NV | 0.00883 U | 0.0614 | 0.0473 | 0.0236 | 0.0331 | 0.00909 U | 0.00752 U | 0.101 | 0.0382 |
| Dibenzo(a,h)anthracene | NV | 0.00883 U | 0.0254 | 0.027 | 0.00739 U | 0.0258 | 0.00909 U | 0.00752 U | 0.00698 U | 0.0127 |
| Fluoranthene | 3200[b] | 0.00883 U | 0.13 | 0.0683 | 0.0472 | 0.0501 | 0.00909 U | 0.00752 U | 0.0411 | 0.816 |
| Fluorene | 3200[b] | 0.00883 U | 0.00749 U | 0.00751 U | 0.00739 U | 0.00737 U | 0.00909 U | 0.00752 U | 0.0132 | 5.15 |
| Indeno(1,2,3-cd)pyrene | NV | 0.00883 U | 0.0412 | 0.045 | 0.0266 | 0.0243 | 0.00909 U | 0.00752 U | 0.00698 U | 0.0244 |
| Naphthalene | 5 | 0.00883 U | 0.0195 | 0.018 | 0.0148 | 0.0155 | 0.00909 U | 0.00752 U | 0.023 | 0.243 |
| Phenanthrene | NA | 0.00883 U | 0.0509 | 0.045 | 0.0369 | 0.0361 | 0.00909 U | 0.00752 U | 0.0411 | 9.61 |
| Pyrene | 2400[b] | 0.00883 U | 0.207 | 0.0916 | 0.0805 | 0.0884 | 0.00909 U | 0.00752 U | 0.0941 | 0.51 |
| cPAH TEC | 0.1 | 0.007 | 0.094 | 0.086 | 0.059 | 0.068 | 0.008 | 0.006 | **0.130** | 0.039 |

# Table 4
## Polycyclic Aromatic Hydrocarbon Analytical Results in Soil (mg/kg)
## Former Hambleton Lumber Mill
## Washougal, Washington

| | MTCA Method A Soil CULs—Unrestricted Use | Log Pond Overfill | | | Mill | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Location | | SS-24 | TP-24 | TP-25 | SS-21 | TP-26 | TP-27 | TP-28 | TP-29 |
| Date Collected | | 9/8/2011 | 10/28/2011 | 10/28/2011 | 9/8/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 | 10/28/2011 |
| Start Depth (ft) | | 0.5 | 0.8 | 0.8 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 |
| End Depth (ft) | | 1.5 | 1.3 | 1.3 | 1.0 | 1.3 | 1.3 | 1.3 | 1.3 |
| 1-Methylnaphthalene | NV | 0.00731 U | 0.00782 U | 0.00736 U | 0.00805 U | 0.00848 U | 0.00827 U | 0.00807 U | 0.00782 U |
| 2-Methylnaphthalene | NV | 0.00877 | 0.00782 U | 0.00736 U | 0.00805 U | 0.00848 U | 0.00827 U | 0.00807 U | 0.00782 U |
| Acenaphthene | 4800[b] | 0.00731 U | 0.00782 U | 0.00736 U | 0.00805 U | 0.00848 U | 0.00827 U | 0.00807 U | 0.00782 U |
| Acenaphthylene | NA | 0.00731 U | 0.00782 U | 0.00736 U | 0.00805 U | 0.00848 U | 0.00827 U | 0.00807 U | 0.00782 U |
| Anthracene | 24000[b] | 0.00731 U | 0.0102 | 0.00736 U | 0.00805 U | 0.00848 U | 0.00827 U | 0.00807 U | 0.0203 |
| Benzo(a)anthracene | NV | 0.0366 U | 0.0164 | 0.00736 U | 0.00805 U | 0.00848 U | 0.0223 | 0.00807 U | 0.0586 |
| Benzo(a)pyrene | 0.1 | 0.0402 | 0.0203 | 0.00736 U | 0.00805 U | 0.00848 U | 0.052 | 0.00967 | 0.0391 |
| Benzo(b)fluoranthene | NV | 0.0439 | 0.0289 | 0.00736 U | 0.00805 U | 0.00848 U | 0.149 | 0.00807 U | 0.186 |
| Benzo(ghi)perylene | NA | 0.0366 U | 0.0242 | 0.00736 U | 0.00805 U | 0.00848 U | 0.0752 | 0.00967 | 0.0774 |
| Benzo(k)fluoranthene | NV | 0.0366 U | 0.00782 U | 0.00736 U | 0.00805 U | 0.00848 U | 0.0355 | 0.00807 U | 0.0219 |
| Chrysene | NV | 0.0366 U | 0.0211 | 0.00736 U | 0.00805 U | 0.00848 U | 0.0479 | 0.00807 U | 0.0774 |
| Dibenzo(a,h)anthracene | NV | 0.0366 U | 0.00782 U | 0.00736 U | 0.00805 U | 0.00848 U | 0.0281 | 0.00887 | 0.00782 U |
| Fluoranthene | 3200[b] | 0.027 | 0.0281 | 0.00736 U | 0.00805 U | 0.00848 U | 0.0149 | 0.00807 U | 0.138 |
| Fluorene | 3200[b] | 0.00731 U | 0.00782 U | 0.00736 U | 0.00805 U | 0.00848 U | 0.00827 U | 0.00807 U | 0.00782 U |
| Indeno(1,2,3-cd)pyrene | NV | 0.0366 U | 0.0125 | 0.00736 U | 0.00805 U | 0.00848 U | 0.0438 | 0.00807 U | 0.0492 |
| Naphthalene | 5 | 0.0183 | 0.00782 U | 0.00736 U | 0.00805 U | 0.00848 U | 0.00827 U | 0.00807 U | 0.0117 |
| Phenanthrene | NA | 0.0263 | 0.0117 | 0.00736 U | 0.00805 U | 0.00848 U | 0.00827 U | 0.00807 U | 0.0477 |
| Pyrene | 2400[b] | 0.0366 U | 0.043 | 0.00736 U | 0.00805 U | 0.00848 U | 0.014 | 0.00807 U | 0.131 |
| cPAH TEC | 0.1 | 0.052 | 0.027 | 0.006 | 0.006 | 0.006 | 0.080 | 0.012 | 0.072 |

# Table 5
# Sediment Sample Results
# Former Hambleton Lumber Mill
# Washougal, Washington

| Location | Ecology 2010 Freshwater Criteria | | SED-01 | SED-02 | SED-03 | SED-04 |
|---|---|---|---|---|---|---|
| Date Collected | Sediment Quality Standard / Screening Level 1 | Cleanup Screening Level / Screening Level 2 | 09/07/2011 | 09/07/2011 | 09/07/2011 | 09/07/2011 |
| Depth (cm) | | | 0 - 10 | 0 - 10 | 0 - 10 | 0 - 10 |
| **Metals (mg/kg)** | | | | | | |
| Antimony | 0.3 | 12 | 0.107 UJ | 0.145 J | 0.103 UJ | 0.153 J |
| Arsenic | 14 | 120 | 3.12 | 5.75 | 6.15 | 5.14 |
| Cadmium | 2.1 | 5.4 | 0.0318 U | 0.271 | 0.13 | 0.383 |
| Chromium | 72 | 82 | 6.45 | 13.9 | 12.3 | 15.1 |
| Copper | 400 | 1200 | 3.16 | 14.1 | 9.37 | 16 |
| Lead | 360 | >1300 | 5.16 J | 5.46 J | 4.73 J | 8.94 J |
| Mercury | 0.66 | 0.8 | 0.0041 J | 0.0384 | 0.0445 | 0.0314 |
| Nickel | 26 | 110 | 4.16 | 8.7 | 8.01 | 10.4 |
| Silver | 0.58 | 1.7 | 0.054 | 0.129 | 0.0971 | 0.16 |
| Zinc | 3200 | >4200 | 23.4 | 109 | 81.1 | 99.8 |
| **PCBs (mg/kg)** | | | | | | |
| Aroclor 1016 | NA | NA | 0.000139 U | 0.00019 U | 0.000169 U | 0.000186 U |
| Aroclor 1221 | NA | NA | 0.000139 U | 0.00019 U | 0.000169 U | 0.000186 U |
| Aroclor 1232 | NA | NA | 0.000139 U | 0.00019 U | 0.000169 U | 0.000186 U |
| Aroclor 1242 | NA | NA | 0.000139 U | 0.00019 U | 0.000169 U | 0.000186 U |
| Aroclor 1248 | NA | NA | 0.000139 U | 0.00019 U | 0.000169 U | 0.000186 U |
| Aroclor 1254 | NA | NA | 0.000139 U | 0.00019 U | 0.000169 U | 0.000186 U |
| Aroclor 1260 | NA | NA | 0.000139 U | 0.00019 U | 0.000169 U | 0.000186 U |
| Aroclor 1262 | NA | NA | 0.000139 U | 0.00019 U | 0.000169 U | 0.000186 U |
| Aroclor 1268 | NA | NA | 0.000139 U | 0.00019 U | 0.000169 U | 0.000186 U |
| Total Aroclors | 0.11 | 2.5 | 0.000139 U | 0.00019 U | 0.000169 U | 0.000186 U |

# Table 5
# Sediment Sample Results
# Former Hambleton Lumber Mill
# Washougal, Washington

| Location | Ecology 2010 Freshwater Criteria | | SED-01 | SED-02 | SED-03 | SED-04 |
|---|---|---|---|---|---|---|
| Date Collected | Sediment Quality Standard / Screening Level 1 | Cleanup Screening Level / Screening Level 2 | 09/07/2011 | 09/07/2011 | 09/07/2011 | 09/07/2011 |
| Depth (cm) | | | 0 - 10 | 0 - 10 | 0 - 10 | 0 - 10 |
| **SVOCs (mg/kg)** | | | | | | |
| 1,2,4-Trichlorobenzene | NA | NA | 0.0111 U | 0.0151 U | 0.0134 U | 0.0148 U |
| 1,2-Dichlorobenzene | NA | NA | 0.0254 U | 0.0347 U | 0.0308 U | 0.0339 U |
| 1,4-Dichlorobenzene | NA | NA | 0.0267 U | 0.0365 U | 0.0324 U | 0.0356 U |
| 2,4-Dimethylphenol | NA | NA | 0.0116 U | 0.0159 U | 0.0141 U | 0.0155 U |
| 2-Methylphenol | NA | NA | 0.0151 U | 0.0206 U | 0.0183 U | 0.0201 U |
| 3- & 4-Methylphenol | 0.26 | 2.0 | 0.0156 U | 0.0858 | 0.019 U | 0.0209 U |
| Benzoic acid | 2.9 | 3.8 | 0.0431 U | 0.0588 U | 0.0522 U | 0.0575 U |
| Benzyl alcohol | NA | NA | 0.042 U | 0.0574 U | 0.051 U | 0.0561 U |
| Bis(2-ethylhexyl)phthalate | 0.5 | 22 | 0.0181 U | 0.0247 U | 0.0219 U | 0.0241 U |
| Butylbenzylphthalate | 0.26* | 0.37** | 0.0111 U | 0.0152 U | 0.0135 U | 0.0148 U |
| Dibenzofuran | 0.2 | 0.68 | 0.00952 U | 0.013 U | 0.0115 U | 0.0127 U |
| Diethylphthalate | NA | NA | 0.014 U | 0.0191 U | 0.017 U | 0.0187 U |
| Dimethyl phthalate | 0.046* | 0.44** | 0.0137 U | 0.0187 U | 0.0166 U | 0.0183 U |
| Di-n-butyl phthalate | 0.38 | 0.45 | 0.0327 U | 0.0447 U | 0.0397 U | 0.0437 U |
| Di-n-octyl phthalate | 0.039 | >1.1 | 0.013 U | 0.0178 U | 0.0158 U | 0.0174 U |
| Hexachlorobenzene | NA | NA | 0.0114 U | 0.0155 U | 0.0138 U | 0.0152 U |
| Hexachlorobutadiene | NA | NA | 0.016 U | 0.0219 U | 0.0194 U | 0.0214 U |
| Hexachloroethane | NA | NA | 0.026 U | 0.0355 U | 0.0315 U | 0.0346 U |
| N-Nitrosodiphenylamine | NA | NA | 0.0073 U | 0.00996 U | 0.00884 U | 0.00973 U |
| Pentachlorophenol | 1.2 | >1.2 | 0.0496 U | 0.0678 U | 0.0601 U | 0.0662 U |
| Phenol | 0.12 | 0.21 | 0.0153 U | 0.0209 U | 0.0185 U | 0.0204 U |

# Table 5
# Sediment Sample Results
# Former Hambleton Lumber Mill
# Washougal, Washington

| Location | Ecology 2010 Freshwater Criteria | | SED-01 | SED-02 | SED-03 | SED-04 |
|---|---|---|---|---|---|---|
| Date Collected | Sediment Quality Standard / Screening Level 1 | Cleanup Screening Level / Screening Level 2 | 09/07/2011 | 09/07/2011 | 09/07/2011 | 09/07/2011 |
| Depth (cm) | | | 0 - 10 | 0 - 10 | 0 - 10 | 0 - 10 |
| **LPAHs (mg/kg)** | | | | | | |
| Naphthalene | 0.5* | 1.31** | 0.00182 J | 0.00746 J | 0.00331 J | 0.00364 J |
| Acenaphthylene | 0.47* | 0.64** | 0.000997 U | 0.00136 U | 0.00221 J | 0.00133 U |
| Acenaphthene | 1.06* | 1.32** | 0.00159 U | 0.00498 J | 0.00193 U | 0.00212 U |
| Fluorene | 1* | 3** | 0.000381 U | 0.00622 J | 0.000462 U | 0.000508 U |
| Phenanthrene | 6.1* | 7.6** | 0.000369 U | 0.0187 | 0.011 | 0.00607 J |
| Anthracene | 1.2* | 1.58** | 0.00273 J | 0.00498 J | 0.00331 J | 0.00121 J |
| 2-Methylnaphthalene | 0.47* | 0.56** | 0.00144 U | 0.00197 U | 0.00175 U | 0.00192 U |
| *TOTAL LPAHs* | 6.6* | 9.2** | 0.00455 | 0.04234 | 0.01983 | 0.01092 |
| **HPAHs (mg/kg)** | | | | | | |
| Fluoranthene | 11* | 15** | 0.00455 J | 0.0261 | 0.0177 | 0.0109 J |
| Pyrene | 8.8* | 16** | 0.00364 J | 0.0299 | 0.0166 | 0.0121 |
| Benzo(a)anthracene | 4.26* | 5.8** | 0.00455 J | 0.0112 J | 0.011 | 0.0085 J |
| Chrysene | 5.94* | 6.4** | 0.00546 J | 0.0187 | 0.011 | 0.0085 J |
| Benzo(b)fluoranthene | 11* | 14** | 0.00546 J | 0.0187 | 0.0155 | 0.0121 |
| Benzo(k)fluoranthene | 11* | 14** | 0.00273 J | 0.0112 J | 0.00662 J | 0.00486 J |
| Benzo(a)pyrene | 3.3* | 4.81** | 0.000702 U | 0.0149 | 0.0121 | 0.0085 J |
| Indeno(1,2,3-cd)pyrene | 4.12* | 5.3** | 0.00094 U | 0.00871 J | 0.00662 J | 0.00486 J |
| Dibenzo(a,h)anthracene | 0.8* | 0.84** | 0.000877 U | 0.0012 U | 0.00106 U | 0.00117 U |
| Benzo(ghi)perylene | 4.02* | 5.2** | 0.00546 J | 0.0124 | 0.00115 U | 0.00607 J |
| *TOTAL HPAHs* | 31.0* | 54.8** | 0.02639 | 0.32992 | 0.09714 | 0.07639 |
| **Total PAHs (mg/kg)** | | | | | | |
| Total PAHs | 17 | 30 | 0.033459 | 0.5279 | 0.172952 | 0.10737 |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | |
| Diesel | 340 | 510 | 8.2 U | 117 | 9.93 U | 10.9 U |
| Lube Oil | 3600 | 8400 | 23.2 U | 258 | 81.7 | 72.4 |

# Table 5
# Sediment Sample Results
# Former Hambleton Lumber Mill
# Washougal, Washington

| Location | Ecology 2010 Freshwater Criteria | | SED-01 | SED-02 | SED-03 | SED-04 |
|---|---|---|---|---|---|---|
| Date Collected | Sediment Quality Standard / Screening Level 1 | Cleanup Screening Level / Screening Level 2 | 09/07/2011 | 09/07/2011 | 09/07/2011 | 09/07/2011 |
| Depth (cm) | | | 0 - 10 | 0 - 10 | 0 - 10 | 0 - 10 |
| **Physical Parameters** | | | | | | |
| Total Organic Carbon (mg/kg) | NA | NA | 1180 | 5980 | 4710 | 5100 |
| Total Solids (wt%) | NA | NA | 79 | 59.5 | 57.6 | 57.3 |
| **Grain Size Analysis (%)** | | | | | | |
| Coarse Gravel | NA | NA | 2.5 | 0 | 0 | 0 |
| Gravel | NA | NA | 25.4 | 22.7 | 0 | 0 |
| *TOTAL GRAVEL* | NA | NA | 27.9 | 22.7 | 0 | 0 |
| Coarse Sand | NA | NA | 5.3 | 11.3 | 0 | 0.3 |
| Medium Sand | NA | NA | 14 | 13.2 | 1.1 | 1.2 |
| Fine Sand | NA | NA | 51.2 | 34.6 | 48.9 | 24.4 |
| Very Coarse Sand | NA | NA | 0.4 | 9.7 | 24.8 | 30.5 |
| *TOTAL SAND* | NA | NA | 70.9 | 68.8 | 74.8 | 56.4 |
| Coarse Silt | NA | NA | 0 | 2.1 | 12.2 | 9.3 |
| Medium Silt | NA | NA | 0 | 1.1 | 3.2 | 12.1 |
| Fine Silt | NA | NA | 0.2 | 1.8 | 3.2 | 8.7 |
| Very Fine Silt | NA | NA | 0.5 | 1.8 | 2.1 | 4.9 |
| *TOTAL SILT* | NA | NA | 0.7 | 6.8 | 20.7 | 35 |
| *CLAY* | NA | NA | 0.5 | 1.8 | 4.3 | 8.2 |

NOTES:

Non-detections reported to method detection limit.

Screening level values from the Sediment Evaluation Framework from Ecology 2010 "Development of Benthic SQGs for Freshwater Sediments in Washington, Oregon, and Idaho" document, unless otherwise noted.

*No value available. Ecology 2003 Freshwater Criteria lowest apparent effects threshold (LAET) used.

**No value available. Ecology 2003 Freshwater Criteria second lowest apparent effects threshold (2LAET) used.

# Table 6
# Groundwater Sample Results
# Former Hambleton Lumber Mill
# Washougal, Washington

| Location | MTCA Method A Table Value for Groundwater | MW-02 | MW-03 | MW-04 | MW-05 | MW-06 | MW-07 |
|---|---|---|---|---|---|---|---|
| Date Collected | | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/7/2011 | 9/7/2011 | 10/28/2011 |
| **Field Parameters** | | | | | | | |
| Depth-to-water (ft bgs) | NA | 31.16 | 31.02 | 37.38 | 29.63 | 33.39 | 20.61 |
| pH (pH Units) | NA | 7.45 | 7.6 | 7.61 | 7.76 | 7.28 | 5.92 |
| Temperature (degrees Celsius) | NA | 18.83 | 17.8 | 19.04 | 16.97 | 15.47 | 14.53 |
| Conductivity (µS/cm) | NA | 185 | 121 | 364 | 146 | 107 | 91 |
| Dissolved Oxygen (mg/L) | NA | 0.95 | 5.16 | 0.06 | 0.65 | 1.29 | 0.64 |
| Redox Potential (mV) | NA | 4.3 | -6.5 | -26.2 | 22.5 | 51.2 | -173.7 |
| Turbidity (NTU) | NA | 11.9 | 9.24 | 32 | 27 | 5.9 | 82.51 |
| **Metals (µg/L)** | | | | | | | |
| Arsenic (Dissolved) | 5 | -- | -- | -- | -- | -- | 4.15 |
| Arsenic | 5 | 0.277 | 0.137 | 0.171 | 0.183 | 0.157 | **5.56** |
| Barium | NV | -- | -- | | | | 56.9 |
| Cadmium | 5 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Chromium | 50 | -- | -- | -- | -- | -- | 0.124 |
| Lead | 15 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 2.09 |
| Mercury | 2 | -- | -- | -- | -- | -- | 0.1 |
| Selenium | NV | -- | -- | -- | -- | -- | 1 U |
| Silver | NV | -- | -- | -- | -- | -- | 0.1 U |
| **VOCs (µg/L)** | | | | | | | |
| 1,1,1,2-Tetrachloroethane | NV | -- | -- | -- | -- | -- | 1 U |
| 1,1,1-Trichloroethane | 200 | -- | -- | -- | -- | -- | 1 U |
| 1,1,2,2-Tetrachloroethane | NV | -- | -- | -- | -- | -- | 1 U |
| 1,1,2-Trichloroethane | NV | -- | -- | -- | -- | -- | 1 U |
| 1,1-Dichloroethane | NV | -- | -- | -- | -- | -- | 1 U |
| 1,1-Dichloroethene | NV | -- | -- | -- | -- | -- | 1 U |
| 1,1-Dichloropropene | NV | -- | -- | -- | -- | -- | 1 U |
| 1,2,3-Trichlorobenzene | NV | -- | -- | -- | -- | -- | 1 U |
| 1,2,3-Trichloropropane | NV | -- | -- | -- | -- | -- | 1 U |
| 1,2,4-Trichlorobenzene | NV | -- | -- | -- | -- | -- | 1 U |
| 1,2,4-Trimethylbenzene | NV | -- | -- | -- | -- | -- | 1 U |

# Table 6
# Groundwater Sample Results
# Former Hambleton Lumber Mill
# Washougal, Washington

| Location | MTCA Method A Table Value for Groundwater | MW-02 | MW-03 | MW-04 | MW-05 | MW-06 | MW-07 |
|---|---|---|---|---|---|---|---|
| Date Collected | | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/7/2011 | 9/7/2011 | 10/28/2011 |
| **VOCs (µg/L) (cont.)** | | | | | | | |
| 1,2-Dibromo-3-chloropropane | NV | -- | -- | -- | -- | -- | 1 U |
| 1,2-Dibromoethane | 0.01 | -- | -- | -- | -- | -- | 1 U |
| 1,2-Dichlorobenzene | NV | -- | -- | -- | -- | -- | 1 U |
| 1,2-Dichloroethane | 5 | -- | -- | -- | -- | -- | 1 U |
| 1,2-Dichloropropane | NV | -- | -- | -- | -- | -- | 1 U |
| 1,3,5-Trimethylbenzene | NV | -- | -- | -- | -- | -- | 1 U |
| 1,3-Dichlorobenzene | NV | -- | -- | -- | -- | -- | 1 U |
| 1,3-Dichloropropane | NV | -- | -- | -- | -- | -- | 1 U |
| 1,4-Dichlorobenzene | NV | -- | -- | -- | -- | -- | 1 U |
| 2,2-Dichloropropane | NV | -- | -- | -- | -- | -- | 1 U |
| 2-Butanone | NV | -- | -- | -- | -- | -- | 10 U |
| 2-Chlorotoluene | NV | -- | -- | -- | -- | -- | 1 U |
| 2-Hexanone | NV | -- | -- | -- | -- | -- | 10 U |
| 4-Chlorotoluene | NV | -- | -- | -- | -- | -- | 1 U |
| 4-Isopropyltoluene | NV | -- | -- | -- | -- | -- | 1 U |
| 4-Methyl-2-pentanone | NV | -- | -- | -- | -- | -- | 20 U |
| Acetone | NV | -- | -- | -- | -- | -- | 50 U |
| Acrylonitrile | NV | -- | -- | -- | -- | -- | 5 U |
| Benzene | 5 | -- | -- | 0.3 U | -- | -- | 0.3 U |
| Bromobenzene | NV | -- | -- | -- | -- | -- | 1 U |
| Bromodichloro-methane | NV | -- | -- | -- | -- | -- | 1 U |
| Bromoform | NV | -- | -- | -- | -- | -- | 1 U |
| Bromomethane | NV | -- | -- | -- | -- | -- | 1 U |
| Carbon disulfide | NV | -- | -- | -- | -- | -- | 2 U |
| Carbon tetrachloride | NV | -- | -- | -- | -- | -- | 1 U |
| Chlorobenzene | NV | -- | -- | -- | -- | -- | 1 U |
| Chlorobromomethane | NV | -- | -- | -- | -- | -- | 1 U |
| Chloroethane | NV | -- | -- | -- | -- | -- | 1 U |
| Chloroform | NV | -- | -- | -- | -- | -- | 1 U |
| Chloromethane | NV | -- | -- | -- | -- | -- | 1 U |

# Table 6
# Groundwater Sample Results
# Former Hambleton Lumber Mill
# Washougal, Washington

| Location | MTCA Method A Table Value for Groundwater | MW-02 | MW-03 | MW-04 | MW-05 | MW-06 | MW-07 |
|---|---|---|---|---|---|---|---|
| Date Collected | | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/7/2011 | 9/7/2011 | 10/28/2011 |
| **VOCs (µg/L) (cont.)** | | | | | | | |
| cis-1,2-Dichloroethene | NV | -- | -- | -- | -- | -- | 1 U |
| cis-1,3-Dichloropropene | NV | -- | -- | -- | -- | -- | 1 U |
| Dibromochloro-methane | NV | -- | -- | -- | -- | -- | 1 U |
| Dibromomethane | NV | -- | -- | -- | -- | -- | 1 U |
| Dichlorodifluoro-methane | NV | -- | -- | -- | -- | -- | 1 U |
| Ethylbenzene | 700 | -- | -- | 1 U | -- | -- | 1.21 |
| Hexachlorobutadiene | NV | -- | -- | -- | -- | -- | 1 U |
| Isopropylbenzene | NV | -- | -- | -- | -- | -- | 1 U |
| m,p-Xylene | 1000 | -- | -- | 2 U | -- | -- | 2 U |
| Methyl tert-butyl ether | 20 | -- | -- | -- | -- | -- | 1 U |
| Methylene chloride | 5 | -- | -- | -- | -- | -- | 20 U |
| Naphthalene | 20 | -- | -- | -- | -- | -- | 1 U |
| n-Butylbenzene | NV | -- | -- | -- | -- | -- | 1 U |
| n-Propylbenzene | NV | -- | -- | -- | -- | -- | 1 U |
| o-Xylene | NV | -- | -- | 1 U | -- | -- | 1 U |
| sec-Butylbenzene | NV | -- | -- | -- | -- | -- | 1 U |
| Styrene | NV | -- | -- | -- | -- | -- | 1 U |
| tert-Butylbenzene | NV | -- | -- | -- | -- | -- | 1 U |
| Tetrachloroethene | 5 | -- | -- | -- | -- | -- | 1 U |
| Toluene | 1000 | -- | -- | 1 U | -- | -- | 7.32 |
| trans-1,2-Dichloroethene | NV | -- | -- | -- | -- | -- | 1 U |
| trans-1,3-Dichloropropene | NV | -- | -- | -- | -- | -- | 1 U |
| Trichloroethene | 5 | -- | -- | -- | -- | -- | 1 U |
| Trichlorofluoro-methane | NV | -- | -- | -- | -- | -- | 1 U |
| Vinyl chloride | 0.2 | -- | -- | -- | -- | -- | 1 U |

# Table 6
# Groundwater Sample Results
# Former Hambleton Lumber Mill
# Washougal, Washington

| Location | MTCA Method A Table Value for Groundwater | MW-02 | MW-03 | MW-04 | MW-05 | MW-06 | MW-07 |
|---|---|---|---|---|---|---|---|
| Date Collected | | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/7/2011 | 9/7/2011 | 10/28/2011 |
| **SVOCs (µg/L)** | | | | | | | |
| 1,2,4-Trichlorobenzene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| 1,2-Dichlorobenzene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| 1,3-Dichlorobenzene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| 1,4-Dichlorobenzene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| 1-Methylnaphthalene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| 2,3,4-Trichlorophenol | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| 2,3,5-Trichlorophenol | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| 2,3,6-Trichlorophenol | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| 2,4,5-Trichlorophenol | NV | -- | -- | -- | -- | -- | 4.82 UJ |
| 2,4,6-Trichlorophenol | NV | -- | -- | -- | -- | -- | 4.82 UJ |
| 2,4-Dichlorophenol | NV | -- | -- | -- | -- | -- | 2.89 UJ |
| 2,4-Dimethylphenol | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| 2,4-Dinitrophenol | NV | -- | -- | -- | -- | -- | 9.63 UJ |
| 2,4-Dinitrotoluene | NV | -- | -- | -- | -- | -- | 4.82 UJ |
| 2,6-Dinitrotoluene | NV | -- | -- | -- | -- | -- | 4.82 UJ |
| 2-Chloronaphthalene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| 2-Chlorophenol | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| 2-Methylnaphthalene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| 2-Methylphenol | NV | -- | -- | -- | -- | -- | 1.93 UJ |
| 2-Nitroaniline | NV | -- | -- | -- | -- | -- | 4.82 UJ |
| 2-Nitrophenol | NV | -- | -- | -- | -- | -- | 4.82 UJ |
| 3,3-Dichlorobenzidine | NV | -- | -- | -- | -- | -- | 4.82 UJ |
| 3-Nitroaniline | NV | -- | -- | -- | -- | -- | 5.78 UJ |
| 4,6-Dinitro-2-methylphenol | NV | -- | -- | -- | -- | -- | 9.63 UJ |
| 4-Bromophenylphenyl ether | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| 4-Chloro-3-methylphenol | NV | -- | -- | -- | -- | -- | 1.93 UJ |
| 4-Chloroaniline | NV | -- | -- | -- | -- | -- | 2.89 UJ |
| 4-Chlorophenylphenyl ether | NV | -- | -- | -- | -- | -- | 0.963 UJ |

# Table 6
# Groundwater Sample Results
# Former Hambleton Lumber Mill
# Washougal, Washington

| Location | MTCA Method A Table Value for Groundwater | MW-02 | MW-03 | MW-04 | MW-05 | MW-06 | MW-07 |
|---|---|---|---|---|---|---|---|
| Date Collected | | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/7/2011 | 9/7/2011 | 10/28/2011 |
| **SVOCs (µg/L) (cont.)** | | | | | | | |
| 4-Nitroaniline | NV | -- | -- | -- | -- | -- | 4.82 UJ |
| 4-Nitrophenol | NV | -- | -- | -- | -- | -- | 4.82 UJ |
| Acenaphthene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Acenaphthylene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Anthracene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Benzo(a)anthracene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Benzo(a)pyrene | 0.1 | -- | -- | -- | -- | -- | 0.963 UJ |
| Benzo(b)fluoranthene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Benzo(ghi)perylene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Benzo(k)fluoranthene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Benzoic acid | NV | -- | -- | -- | -- | -- | 19.3 UJ |
| Benzyl alcohol | NV | -- | -- | -- | -- | -- | 4.82 UJ |
| Bis(2-chloro-1-methylethyl) ether | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Bis(2-chloroethoxy) methane | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Bis(2-chloroethyl) ether | NV | -- | -- | -- | -- | -- | 1.93 UJ |
| Bis(2-ethylhexyl) phthalate | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Butylbenzylphthalate | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Carbazole | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Chrysene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Cresols | NV | -- | -- | -- | -- | -- | 9.63 UJ |
| Dibenzo(a,h) anthracene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Dibenzofuran | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Diethylphthalate | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Dimethyl phthalate | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Di-n-butyl phthalate | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Di-n-octyl phthalate | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Fluoranthene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Fluorene | NV | -- | -- | -- | -- | -- | 0.963 UJ |

# Table 6
# Groundwater Sample Results
# Former Hambleton Lumber Mill
# Washougal, Washington

| Location | MTCA Method A Table Value for Groundwater | MW-02 | MW-03 | MW-04 | MW-05 | MW-06 | MW-07 |
|---|---|---|---|---|---|---|---|
| Date Collected | | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/7/2011 | 9/7/2011 | 10/28/2011 |
| **SVOCs (µg/L) (cont.)** | | | | | | | |
| Hexachlorobenzene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Hexachlorobutadiene | NV | -- | -- | -- | -- | -- | 1.93 UJ |
| Hexachlorocyclo-pentadiene | NV | -- | -- | -- | -- | -- | 4.82 UJ |
| Hexachloroethane | NV | -- | -- | -- | -- | -- | 1.93 UJ |
| Hydrazine, 1,2-diphenyl | NV | -- | -- | -- | -- | -- | 4.82 UJ |
| Indeno(1,2,3-cd) pyrene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Isophorone | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Naphthalene | 20 | -- | -- | -- | -- | -- | 0.963 UJ |
| Nitrobenzene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| N-Nitroso-dimethylamine | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| N-Nitroso-diphenylamine | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| N-Nitroso-dipropylamine | NV | -- | -- | -- | -- | -- | 1.93 UJ |
| Pentachlorophenol | NV | -- | -- | -- | -- | -- | 4.82 UJ |
| Phenanthrene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Phenol | NV | -- | -- | -- | -- | -- | 1.93 UJ |
| Pyrene | NV | -- | -- | -- | -- | -- | 0.963 UJ |
| Pyridine | NV | -- | -- | -- | -- | -- | 4.82 UJ |

# Table 6
# Groundwater Sample Results
# Former Hambleton Lumber Mill
# Washougal, Washington

| Location | MTCA Method A Table Value for Groundwater | MW-02 | MW-03 | MW-04 | MW-05 | MW-06 | MW-07 |
|---|---|---|---|---|---|---|---|
| Date Collected | | 9/6/2011 | 9/6/2011 | 9/6/2011 | 9/7/2011 | 9/7/2011 | 10/28/2011 |
| **PAHs (µg/L)** | | | | | | | |
| 1-Methylnaphthalene | NV | -- | -- | 0.048 U | -- | -- | -- |
| 2-Methylnaphthalene | NV | -- | -- | 0.048 U | -- | -- | -- |
| Acenaphthene | NV | -- | -- | 0.048 U | -- | -- | 0.0482 UJ |
| Acenaphthylene | NV | -- | -- | 0.048 U | -- | -- | 0.0482 UJ |
| Anthracene | NV | -- | -- | 0.048 U | -- | -- | 0.0482 UJ |
| Benzo(a)anthracene | NV | -- | -- | 0.048 U | -- | -- | 0.0482 UJ |
| Benzo(a)pyrene | 0.1 | -- | -- | 0.048 U | -- | -- | 0.0482 UJ |
| Benzo(b)fluoranthene | NV | -- | -- | 0.048 U | -- | -- | 0.0482 UJ |
| Benzo(ghi)perylene | NV | -- | -- | 0.048 U | -- | -- | 0.0482 UJ |
| Benzo(k)fluoranthene | NV | -- | -- | 0.048 U | -- | -- | 0.0482 UJ |
| Chrysene | NV | -- | -- | 0.048 U | -- | -- | 0.0482 UJ |
| Dibenzo(a,h) anthracene | NV | -- | -- | 0.048 U | -- | -- | 0.0482 UJ |
| Fluoranthene | NV | -- | -- | 0.048 U | -- | -- | 0.0482 UJ |
| Fluorene | NV | -- | -- | 0.048 U | -- | -- | 0.0482 UJ |
| Indeno(1,2,3-cd) pyrene | NV | -- | -- | 0.048 U | -- | -- | 0.0482 UJ |
| Naphthalene | 160 | -- | -- | 0.048 U | -- | -- | 0.0482 UJ |
| Phenanthrene | NV | -- | -- | 0.048 U | -- | -- | 0.0771 J |
| Pyrene | NV | -- | -- | 0.048 U | -- | -- | 0.0482 UJ |
| **TPH (µg/L)** | | | | | | | |
| Diesel | 500 | 76.5 U | 79.1 U | 128 | 76.2 U | 76.2 U | **588** |
| Gasoline | 100 | 100 U | 100 U | 100 U | 100 U | 100 U | 100 U |
| Lube Oil | 500 | 191 U | 198 U | 190 U | 190 U | 190 U | **591** |

# Table 7
# Remedial Cost Estimate—Alternative 1
# Former Hambleton Lumber Mill
# Washougal, Washington

**Remedy Components**

1 Remove log pond liquid and dispose of off site.

2 Excavate log pond sediment and dispose of off site.

3 Backfill log pond with clean, imported material.

4 Remove impacted stockpiled materials and dispose of off site.

5 Excavate impacted soil from aggregate recycling area and dispose of off site.

6 Screen impacted material to remove large, inert debris and deposits (e.g., rocks, concrete debris). Oversize debris will be used to backfill remedial excavations; material passing through the screen will be characterized and disposed of off site.

7 Clean, imported material will be used to backfill remedial excavations.

8 Environmental covenant to prohibit the use of groundwater beneath the site.

**Assumptions**

1 Density of soil = 1.45 tons/CY.

2 Density of select borrow = 1.6 tons/CY.

3 Log pond is assumed to contain 330,000 gallons of liquid that will require off-site disposal.

4 Log pond is assumed to be disposed of at Pacific Power Vac in Portland, OR.

5 Volume of impacted stockpiled material is estimated based on field observations.

6 Reinforced concrete slab will be demolished to facilitate excavation of underlying impacted soil.

7 Remedial excavations will be backfilled with clean, imported material and compacted to 92% compaction, based on the Modified Proctor Test.

8 For budgeting purposes, it was assumed that 10% of the screened material will be oversize, inert debris that will be placed back in the remedial excavations under clean, imported fill.

9 Excavated material will be characterized before off-site disposal. For cost estimating purposes, it was assumed that the material would not be hazardous or special-listed, and disposal cost assumes disposal at a Subtitle D Landfill.

10 20% contingency.

| Item | Description | Quantity | Units | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| **Remedial Action** | | | | | |
| | Mobilization | 1 | LS | $45,000 | $45,000 |
| | Erosion and Sediment Control | 1 | LS | $13,500 | $13,500 |
| | Log Pond | | | | |
| | Removal of log pond liquid | 1 | LS | $28,000 | $28,000 |
| | Transport and disposal of liquid | 330,000 | GAL | $0.19 | $62,700 |
| | Excavate log pond sediment | 3,300 | CY | $14.19 | $46,827 |
| | Imported backfill | 9,800 | CY | $11.52 | $112,896 |
| | Backfill and compact log pond | 9,800 | CY | $3.60 | $35,280 |
| | Transport and disposal of log pond sediment | 5,400 | TON | $36.14 | $195,156 |
| | Excavation | | | | |
| | Reinforced concrete slab demolition | 256 | SY | $19.08 | $4,884 |
| | Excavate impacted material | 5,800 | CY | $5.65 | $32,770 |
| | Screen excavated material | 5,800 | CY | $5.43 | $31,494 |
| | Imported backfill | 5,200 | CY | $11.52 | $59,904 |
| | Backfill and compact excavation | 5,200 | CY | $3.60 | $18,720 |
| | Transport and disposal of excavated material | 8,505 | TON | $35.85 | $304,904 |
| | Site Restoration | | | | |
| | Seeding and fertilizing | 6,367 | SY | $5.68 | $36,176 |
| | | | | ***Remedial Action Subtotal*** | **$1,028,210** |

# Table 7
# Remedial Cost Estimate—Alternative 1
# Former Hambleton Lumber Mill
# Washougal, Washington

| Item | Description | Quantity | Units | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| **Professional Services** | | | | | |
| | Permitting and agency negotiations | 1 | LS | $5,000 | $5,000 |
| | Environmental covenant | 1 | LS | $2,000 | $2,000 |
| | Survey | 1 | LS | $5,000 | $5,000 |
| | Remedial design | 1 | LS | $15,000 | $15,000 |
| | Procurement | 1 | LS | $2,000 | $2,000 |
| | Construction oversight | 1 | LS | $13,000 | $13,000 |
| | Sampling analytical cost | 1 | LS | $116,500 | $116,500 |
| | Reporting | 1 | LS | $10,000 | $10,000 |
| | | | ***Professional Services Subtotal*** | | **$168,500** |
| ***Remedial Action and Professional Services Subtotal*** | | | | | **$1,196,710** |
| ***Contingency*** | | | | **20%** | **$239,300** |
| | | | | **TOTAL COST** | **$1,436,010** |

# Table 8
# Remedial Cost Estimate—Alternative 2
# Former Hambleton Lumber Mill
# Washougal, Washington

**Remedy Components**

1 Remove log pond liquid and dispose of off site.

2 Consolidate impacted material stockpiled on site in log pond.

3 Fill log pond with non-impacted material stockpiled on site and clean, imported backfill.

4 Cap the aggregate recycling area and log pond/mill area with a minimum 2 feet of clean, imported soil. A minimum 6-inch aggregate base and 3-inch asphalt cap may be used in lieu of soil cap.

5 Environmental covenant to prohibit the use of groundwater beneath the site.

6 Soil management plan documenting soil contamination under the cap and outlining soil handling procedures.

**Assumptions**

1 Density of soil = 1.45 tons/CY.

2 Density of select borrow = 1.6 tons/CY.

3 Log pond is assumed to contain 330,000 gallons of liquid that will require off-site disposal.

4 Log pond is assumed to be disposed of at Pacific Power Vac in Portland, OR.

5 Volumes of impacted and non-impacted stockpiled materials are estimated based on field observations.

9 Discount rate of 2.7% based on 20-year real interest OMB Circular A-94 12/8/09.

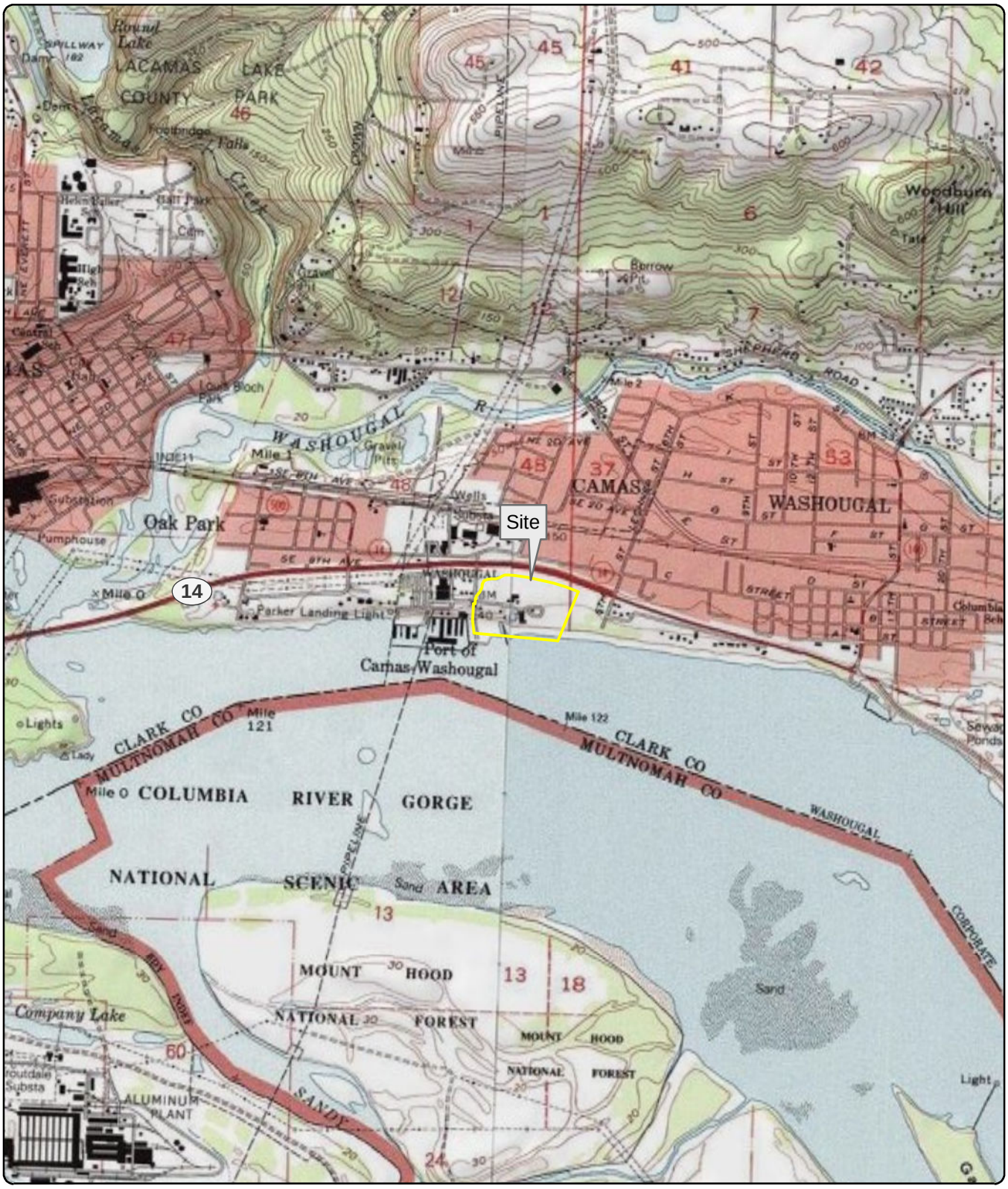
10 20% contingency.

| Item | Description | Quantity | Units | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| **Remedial Action** | | | | | |
| | Mobilization | 1 | LS | $14,000 | $14,000 |
| | Erosion and Sediment Control | 1 | LS | $3,000 | $3,000 |
| | Log Pond | | | | |
| | Removal of log pond liquid | 1 | LS | $35,000 | $35,000 |
| | Transport and disposal of liquid | 330,000 | GAL | $0.20 | $66,000 |
| | Fill log pond with on-site materials and compact | 3,340 | CY | $3.60 | $12,024 |
| | Clean, imported backfill purchase | 3,180 | CY | $11.52 | $36,634 |
| | Imported backfill placement and compaction | 3,180 | CY | $3.60 | $11,448 |
| | Soil Cap | | | | |
| | Demarcation geotextile | 6,500 | SY | $0.52 | $3,376 |
| | Clean, imported soil purchase | 4,340 | CY | $11.52 | $49,997 |
| | Cap placement and compaction | 4,340 | CY | $3.60 | $15,624 |
| | Site Restoration | | | | |
| | Seeding and fertilizing | 6,500 | SY | $5.68 | $36,932 |
| | | | | ***Remedial Action Subtotal*** | **$284,030** |
| **Professional Services** | | | | | |
| | Permitting and agency negotiations | 1 | LS | $7,000 | $7,000 |
| | Soil management and cap maintenance plan | 1 | LS | $10,000 | $10,000 |
| | Environmental covenant | 1 | LS | $5,000 | $5,000 |
| | Survey | 1 | LS | $2,500 | $2,500 |
| | Remedial design | 1 | LS | $15,000 | $15,000 |
| | Procurement | 1 | LS | $5,000 | $5,000 |
| | Geotechnical design support | 1 | LS | $3,000 | $3,000 |
| | Construction oversight | 1 | LS | $11,000 | $11,000 |
| | Reporting | 1 | LS | $5,000 | $5,000 |
| | | | | ***Professional Services Subtotal*** | **$63,500** |

# Table 8
# Remedial Cost Estimate—Alternative 2
# Former Hambleton Lumber Mill
# Washougal, Washington

| Item | Description | Quantity | Units | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| ***Remedial Action and Professional Services Subtotal*** | | | | | **$347,530** |
| ***Contingency*** | | | | **20%** | **$69,500** |
| **Monitoring and Maintenance** | | | | | |
| | Annual inspection | $1,000 | event | 1 | $1,000 |
| | Cap maintenance (years 5, 10, 15, and 20) | $2,000 | event | 1 | $2,500 |
| ***Present Value of Ongoing Costs Total*** | | | | | **$22,000** |
| | | | **TOTAL ESTIMATED PRESENT VALUE** | | **$439,030** |

# FIGURES




Site Address: 335 South A Street, Washougal, Washington
Source: US Geological Survey (1990) 7.5-minute topographic quadrangle: Camas & Washougal
Section 12, Township 1 N, Range 3E

## Legend

Site Boundary

# Figure 1
## Site Location

Port of Camas-Washougal
Washougal, Washington

0 1,000 2,000
Feet

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Print Date: 3/11/2013
Approved By: K. Roslund
Produced By: J. Schane
Project: 0229.04.03

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Print Date: 1/13/2012
Approved By: J. Maul
Produced By: ischane
Project: 0229.04.03

# Figure 2
# Site Features

Port of Camas-Washougal
Washougal, Washington


## Legend

- Catch Basin
- Outfall
- Potential Dry Well
- Monitoring Well
- Stockpile
- Fill
- Potential Former UST
- Aggregate Recycling Area
- Former Swale
- Current and Former Site Buildings
- Property Boundary

Notes:
1. Site features were interpreted from aerial photography and gathered from Figures 2, 3, and 11 of the Initial Independent Cleanup Report and Risk Assessment by Certified Environmental Consulting, Inc. and Evren Northwest (October 16, 2009).
2. Potential Fill based on site contact interview.
3. UST = Underground Storage Tank.

0 75 150
Feet

Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online/Bing Maps.

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# Figure 3
# Historical Soil Sample Locations and Exceedances

Port of Camas-Washougal
Washougal, Washington

## Legend

Soil Exceedance
Depth (ft)
TPH
Metals
PAH
VOC
PCBs

- Boring
- Surface Soil Sample
- Magnetic Anomaly
- Test Pit
- Catch Basin
- Outfall
- Potential Dry Well
- Aggregate Recycling Area
- Stockpile
- Fill
- Current and Former Site Buildings
- Property Boundary

**Contaminant Index**
TPH = Total Petroleum Hydrocarbons
Metals = Lead and/or Mercury
PAH = Polycyclic Aromatic Hydrocarbons
VOC = Volatile Organic Compounds
PCB = Polychlorinated Biphenyls

Notes:

1. Sample locations and site features were interpreted from aerial photography and gathered from Figures 2, 3, and 11 and Tables 1 and 2 of the Initial Independent Cleanup Report and Risk Assessment by Certified Environmental Consulting NW (CEC), and Evren Northwest (October 16, 2009).
2. Potential Fill based on site contact interview.
3. UST = Underground Storage Tank.
4. Previous sample results for B-1, Potential UST Pit B-1, and magnetic anomaly are inconsistent between Figures and Sample Result Tables from the CEC 2009 report. At least one sample taken from one of these locations contained TPH, PAHs, and/or VOCs exceeding MTCA Method A Cleanup Levels.
5. Sample results compared to Washington Model Toxics Control Act (MTCA) Method A Soil Cleanup Values.

0 75 150
Feet

Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online/Bing Maps.

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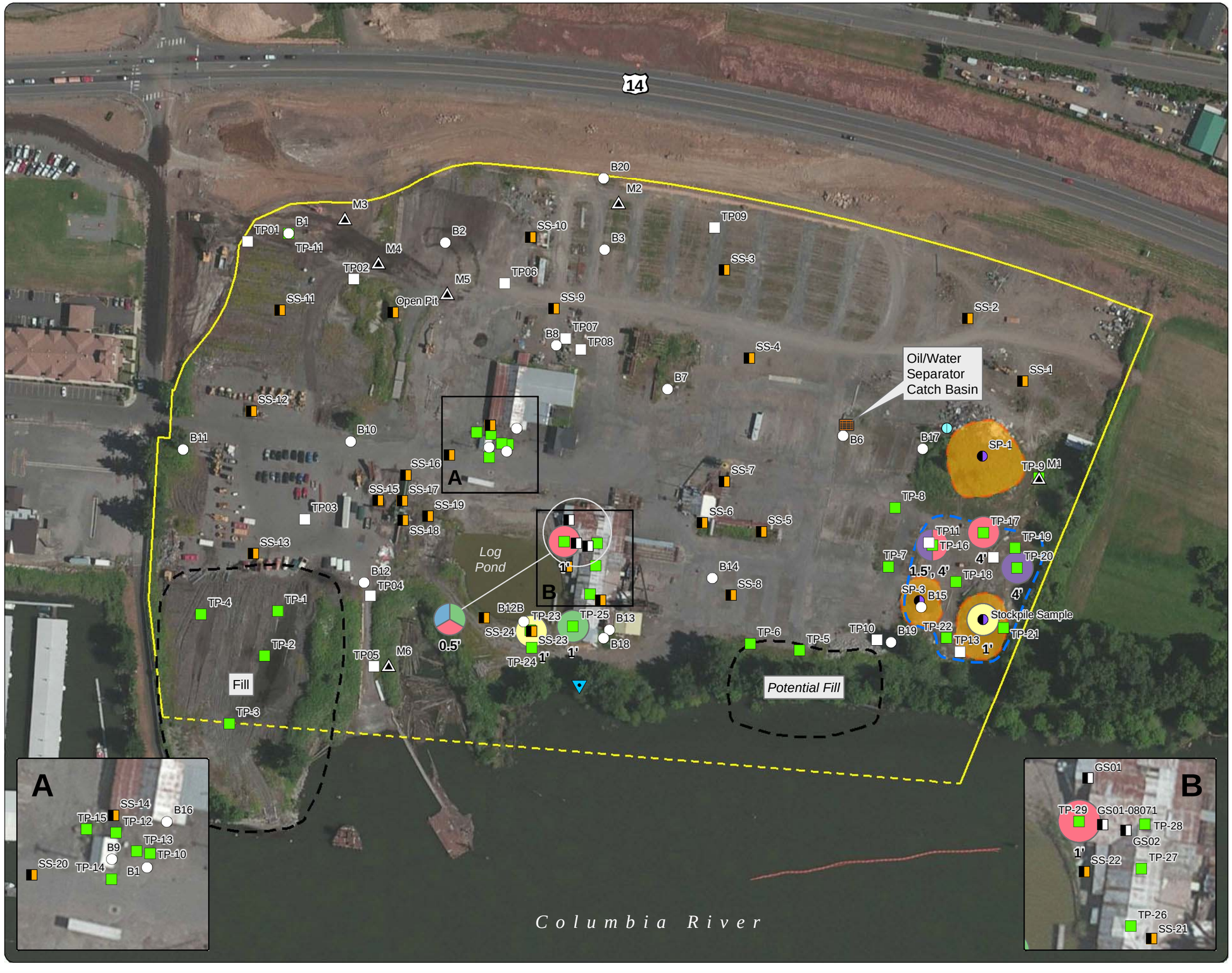
Print Date: 1/13/2012
Approved By: J. Maul
Produced By: J. Schone
Project: 0229.04.03

# Figure 4
# Soil Sample Locations and Exceedances

Port of Camas-Washougal
Washougal, Washington




## Legend

**2011 Sample Locations**

- Surface Soil Sample
- Composite Sample
- Test Pit

**Historical Sample Locations**

- Boring
- Surface Soil Sample
- Composite Sample
- Test Pit
- Magnetic Anomaly

**Soil Exceedance**
**Depth (ft)**

TPH | Metals | PAH | VOC | PCBs

- Catch Basin
- Outfall
- Potential Dry Well
- Aggregate Recycling Area
- Stockpile
- Fill
- Site Boundary

**Contaminant Index**
TPH = Total Petroleum Hydrocarbons
Metals = Lead and/or Mercury
PAH = Polycyclic Aromatic Hydrocarbons
VOC = Volatile Organic Compounds
PCB = Polychlorinated Biphenyls

Notes:
1. Sample locations and site features were interpreted from aerial photography and gathered from Figures 2, 3, and 11 and Tables 1 and 2 of the Initial Independent Cleanup Report and Risk Assessment by Certified Environmental Consulting NW (CEC), and Evren Northwest (October 16, 2009).
2. Potential Fill based on site contact interview.
3. UST = Underground Storage Tank.
4. Sample results compared to Washington Model Toxics Control Act (MTCA) Method A Soil Cleanup Values.

0 75 150
Feet

Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online/Bing Maps.

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Path: X:\0229.04\1.2 GIS\Projects\Fig4_Soil Sample Locations and Exceedances.mxd
Print Date: 1/12/2012
Approved By: J. Maul
Produced By: J. Schanz
Project: 0229.04.03

Path: X:\0229.04\1-2 RI\FS\Projects\Figs_Sediment Sample Locations and Exceedances.mxd
Print Date: 1/13/2012
Approved By: J. Maul
Produced By: jschane
Project: 0229.04.03

# Figure 5
# Sediment Sample Locations and Exceedances

Port of Camas-Washougal
Washougal, Washington


## Legend

**Exceedances**

- TPH
- VOC

- 2011 Sediment Sample Location
- Historical Sediment Sample Location
- Catch Basin
- Outfall
- Potential Dry Well
- Stockpile
- Fill Material
- Aggregate Recycling Area
- Current and Former Site Buildings
- Site Boundary

**Contaminant Index**
TPH = Total Petroleum Hydrocarbons
VOC = Volatile Organic Compounds

Notes:
1. Sample locations and site features were interpreted from aerial photography and gathered from Figures 2, 3, and 11 and Tables 1 through 13 of the Initial Independent Cleanup Report and Risk Assessment by Certified Environmental Consulting NW (CEC), and Evren Northwest (October 16, 2009).
2. Potential Fill based on site contact interview.
3. UST = Underground Storage Tank.
4. Sediment sample results in Columbia River samples compared to Ecology 2010 or Freshwater Criteria Screening levels. Sediment sample results in log pond compared to Washington Model Toxics Control Act (MTCA) Method A Soil Cleanup Values.

0 75 150
Feet

Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online/Bing Maps.

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Path: X:\0229.04\12 RI\FS\Projects\Fig6_Groundwater and Surface Water Sample Locations and Exceedances.mxd
Print Date: 1/12/2012
Approved By: J. Maul
Produced By: ishane
Project: 0229.04.03


# Figure 6
# Groundwater and Surface Water Sample Locations and Exceedances

Port of Camas-Washougal
Washougal, Washington

## Legend

**Exceedances**

- TPH
- Metals
- PAH

- Catch Basin
- Outfall
- Potential Dry Well
- Stockpile
- Fill Material
- Aggregate Recycling Area
- Current and Former Site Buildings
- Site Boundary

- 2011 Monitoring Well
- Historical Monitoring Well
- Historical Surface Water Sample

**Contaminant Index**
TPH = Total Petroleum Hydrocarbons
Metals = Lead and/or Mercury
PAH = Polycyclic Aromatic Hydrocarbons

Notes:
1. Exceedances shown represent the Washington Model Toxics Control Act (MTCA) Method A Table Values.
2. Sample locations and site features were interpreted from aerial photography and gathered from Figures 2, 3, and 11 and Tables 1 and 2 of the Initial Independent Cleanup Report and Risk Assessment by Certified Environmental Consulting NW (CEC), and Evren Northwest (October 16, 2009).

0 75 150
Feet

Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online/Bing Maps.

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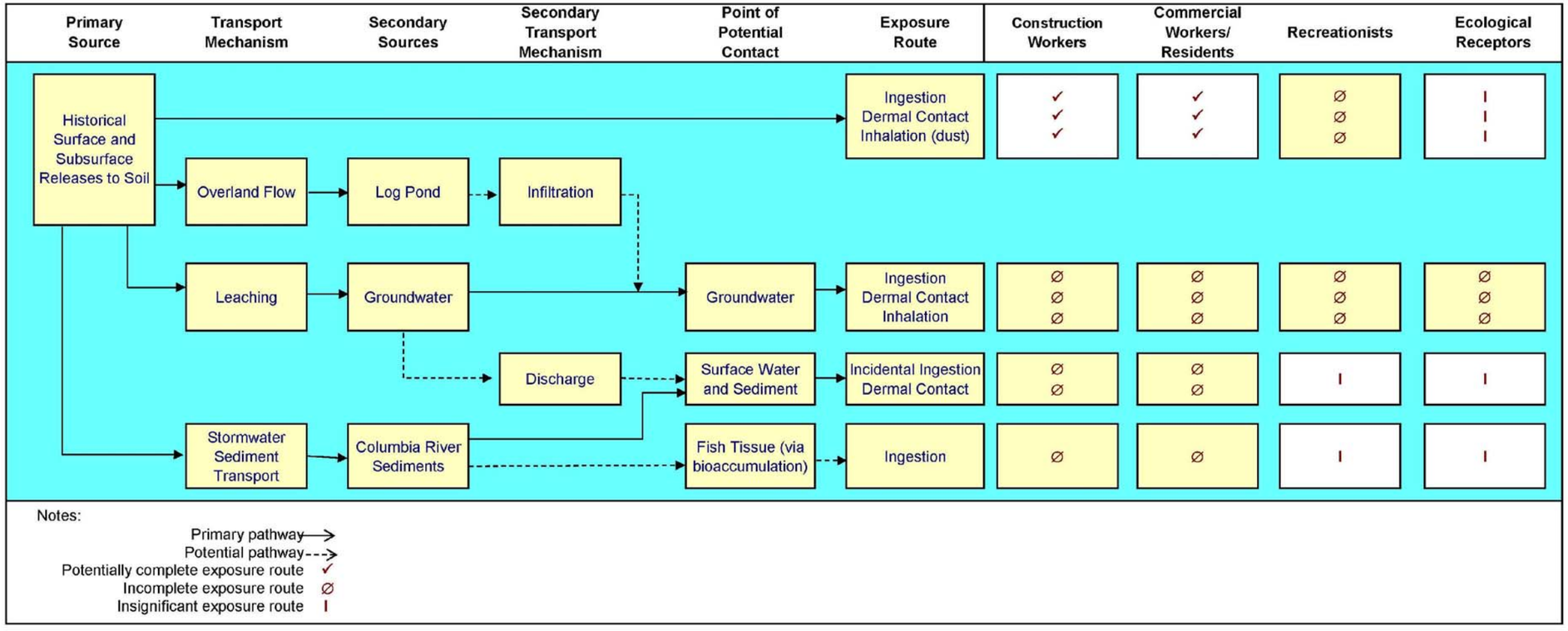
# Figure 7
# Conceptual Site Model of Potential Human and Ecological Exposure Pathways

Port of Camas-Washougal
Washougal, Washington





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Path: X:\0229.04\1.2 RI\FS\Projects\Fig7_Conceptual Site Model of Potential Human and Ecological Exposure Pathways.mxd
Print Date: 1/11/2012
Approved By: C. Johnson
Produced By: J. Schane
Project: 0229.04.03

# APPENDIX A

## BORING LOGS AND WELL INSTALLATION LOG

**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-01** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **09/06/11 to 09/06/11** | Northing | |
| Driller/Equipment | **NRCES/Excavator** | Easting | |
| Geologist/Engineer | **Christina Johnson** | Hole Depth | **8.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 0.0 to 4.5 feet: GRAVELLY SAND with SILT (SW); dark brown; 20% fines; 50% sand; 30% gravel and cobbles, angular to subangular; occasional wood pieces; organic-like odor; moist. |
| 2 | | | | | | | | | |
| 3 | | | | G | | TP-1-3 (4.6 ppm) | | | @ 3.0 feet: Gravel and cobbles increase, become more angular. |
| 4 | | | | | | | | | @ 4.0 feet: Odor. |
| 5 | | | | G | | (2.4 ppm) | | | 4.5 to 8.0 feet: SAND (SP); dark gray; 100% sand; moist. |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |

Total depth: 8.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Photoionization detector readings in parts per million (ppm), as shown in parentheses.
3) Samples collected approximately 0.5 foot above and below interval noted above.
4) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-02** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **09/06/11 to 09/06/11** | Northing | |
| Driller/Equipment | **NRCES/Excavator** | Easting | |
| Geologist/Engineer | **Christina Johnson** | Hole Depth | **9.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 0.0 to 7.0 feet: GRAVELLY SAND with SILT (SW); dark gray; 20% fines, low plasticity; 50% sand; 20% gravel; 10% cobble; some wood pieces; organic-like odor; moist. |
| 2 | | | | G | | TP-2-2 (2.5 ppm) | | | |
| 3 | | | | | | | | | @3.0 feet: Increase sand with some silt. |
| 4 | | | | G | | TP-2-3.5 | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | @ 6.5 feet: Concrete block with rebar. Moved test pit. |
| | | | | | | | | | 7.0 to 9.0 feet: SAND (SP); light brown; 100% sand; moist. |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |

Total depth: 9.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Sample TP-2-3.5 collected 2.0 to 5.0 feet bgs.
3) Samples collected approximately 0.5 foot above and below interval noted above.
4) Photoionization detector readings in parts per million (ppm), as shown in parentheses.
5) G = Grab sample.

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# Maul Foster & Alongi, Inc.

## Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-03** | **1 of 1** |

| | | | |
|---|---|---|---|
| *Project Name* | ***Port of Camas Washougal*** | *TOC Elevation (feet)* | |
| *Project Location* | ***Washougal, WA*** | *Surface Elevation (feet)* | |
| *Start/End Date* | ***09/06/11 to 09/06/11*** | *Northing* | |
| *Driller/Equipment* | ***NRCES/Excavator*** | *Easting* | |
| *Geologist/Engineer* | ***Christina Johnson*** | *Hole Depth* | ***14.0-feet*** |
| *Sample Method* | ***Grab*** | *Outer Hole Diam* | ***-inch*** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 0.0 to 3.5 feet: GRAVELLY SAND (SW); 75% sand; 25% gravel and cobble; some wood pieces; moist. |
| 2 | | | | G | | (0.0 ppm) | | | @2.0 feet: Electrical wire (refuse). |
| 3 | | | | G | | TP-3-3 | | | |
| 4 | | | | | | | | | 3.5 to 14.0 feet: SAND with GRAVEL (SW); light brown; 85% sand; 15% gravel and cobble, subround; moist. |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | @ 14 feet: Cobble. |

*Total depth: 14.0 feet bgs.*

***NOTES:*** *1) Test pit backfilled with overburden and wheel-compacted.*
*2) Photoionization detector readings in parts per million (ppm), as shown in parentheses.*
*3) Samples collected approximately 0.5 foot above and below interval noted.*
*4) G = Grab sample.*

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# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-04** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **09/06/11 to 09/06/11** | Northing | |
| Driller/Equipment | **NRCES/Excavator** | Easting | |
| Geologist/Engineer | **Christina Johnson** | Hole Depth | **8.5-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 0.0 to 5.0 feet: GRAVELLY SAND (SW); 70% sand; 30% gravel and cobble; occasional concrete slab, asphalt, and wood; moist. |
| 2 | | | | | | | | | |
| 3 | | | | G | | (0.4 ppm) | | | @2.5 feet: Strong unidentified odor. |
| 4 | | | | G | | TP-4-3 | | | @4.0 feet: Brown. |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | 5.0 to 8.5 feet: SAND (SW); light yellowish brown; 85% sand; 15% cobble; no odor; moist. |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |

Total depth: 8.5 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Photoionization detector readings in parts per million (ppm), as shown in parentheses.
3) Sample TP-4-3 collected from 2.0 to 4.5 feet bgs.
4) Samples collected approximately 0.5 foot above and below interval noted.
5) G = Grab sample.

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# Maul Foster & Alongi, Inc.

## Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-05** | **1 of 1** |

| | | | |
|---|---|---|---|
| *Project Name* | ***Port of Camas Washougal*** | *TOC Elevation (feet)* | |
| *Project Location* | ***Washougal, WA*** | *Surface Elevation (feet)* | |
| *Start/End Date* | ***09/06/11 to 09/06/11*** | *Northing* | |
| *Driller/Equipment* | ***NRCES/Excavator*** | *Easting* | |
| *Geologist/Engineer* | ***Christina Johnson*** | *Hole Depth* | ***17.0-feet*** |
| *Sample Method* | ***Grab*** | *Outer Hole Diam* | ***-inch*** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1–3 | | | | | | | | | 0.0 to 3.0 feet: SILT with GRAVEL (ML); brown; 80% fines, non-plastic; 20% gravel and cobble; occasional brick; moist. |
| 3–13.5 | | | | | | | | | 3.0 to 13.5 feet: WOODY DEBRIS; 100% stumps, bark, wood pieces; some organic silt and clay; occasional metal bands; organic-like odor; moist. |
| 6 | | | | | | | | | @6.0 feet: Wet. |
| 8 | | | | G | | TP-5-8 | | | |
| 13.5–17 | | | | | | | | | 13.5 to 17.0 feet: SILTY SAND (SM); grayish green; 30% fines; 70% sand; unidentified odor; wet. |
| 17 | | | | G | | TP-5-16.5 | | | |

*Total depth: 17.0 feet bgs.*

***NOTES:*** *1) Test pit backfilled with overburden and wheel-compacted.*
*2) Sample TP-5-8 collected 3.0 to 13.0 feet bgs.*
*3) Sample TP-5-16.5 collected 16.0 to 17.0 feet bgs.*
*3) G = Grab sample.*

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-06** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **09/06/11 to 09/06/11** | Northing | |
| Driller/Equipment | **NRCES/Excavator** | Easting | |
| Geologist/Engineer | **Christina Johnson** | Hole Depth | **16.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Sample Data: Percent Recovery | Sample Data: Collection Method | Sample Data: Number | Sample Data: Name (Type) | Sample Data: Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1–15 | | | | **G** | | **TP-6-8** | | | *0.0 to 15.0 feet: SAND (SW); brownish gray; 100% sand; contains clay, brick, bottle, and metal pieces; moist.* |
| 12–15 | | | | | | | | | *@12.0 to 15.0 feet: Observed decomposed wood; slight organic-like odor.* |
| 15–16 | | | | | | | | | *15.0 to 16.0 feet: SAND (SW); brown; 10% fines; 90% sand; moist.* |

*Total depth: 16.0 feet bgs.*

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Sample TP-6-8 collected 3.0 to 13.0 feet bgs.
3) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-07** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **09/06/11 to 09/06/11** | Northing | |
| Driller/Equipment | **NRCES/Excavator** | Easting | |
| Geologist/Engineer | **Christina Johnson** | Hole Depth | **9.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | G | | TP-7-2 | | | 0.0 to 1.0 feet: GRAVEL with SILT (GM); light brownish gray; 20% fines; 80% gravel, angular; moist. |
| 2 | | | | | | | | | @ 1.0 to 2.0 feet: contains woody debris; slight organic-like odor. |
| 3 | | | | | | | | | 2.0 to 9.0 feet: SILTY SAND (SM); brown; 30% fines; 70% sand; moist. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |

*Total depth: 9.0 feet bgs.*

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Sample collected 1.0 foot above interval noted.
3) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-08** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **09/06/11 to 09/06/11** | Northing | |
| Driller/Equipment | **NRCES/Excavator** | Easting | |
| Geologist/Engineer | **Christina Johnson** | Hole Depth | **9.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 0.0 to 1.0 feet: GRAVEL with SILT (GM); light brown; 20% fines; 80% gravel, angular; dry. |
| 2 | | | | **G** | | **TP-8-1.5** | | | 1.0 to 2.5 feet: SANDY GRAVEL with SILT (GW); light brown; 20% fines; 30% sand; 50% gravel; dry. |
| 3 | | | | | | | | | 2.5 to 9.0 feet: SILTY SAND (SM); brown; 30% fines; 70% sand; moist. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |

*Total depth: 9.0 feet bgs.*

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Sample collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-09** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **09/07/11 to 09/07/11** | Northing | |
| Driller/Equipment | **NRCES/Excavator** | Easting | |
| Geologist/Engineer | **Christina Johnson** | Hole Depth | **7.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 0.0 to 7.0 feet: GRAVELLY SILT with SAND (ML); light brown; 50% fines; 20% sand; 30% gravel; occasional metal pieces; moist. |
| 2 | | | | G | | TP-9-2 | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | G | | TP-9-7 | | | |

Total depth: 7.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-10** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **09/07/11 to 09/07/11** | Northing | |
| Driller/Equipment | **NRCES/Excavator** | Easting | |
| Geologist/Engineer | **Christina Johnson** | Hole Depth | **7.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 0.0 to 0.3 feet: ASPHALT. |
| | | | | | | | | | 0.3 to 7.0 feet: SILTY SAND (SM); brown; 30% fines; 70% sand; west side of pit contains cobble-sized concrete clasts and occasional fines; strong petroleum-like odor; moist. |
| 2 | | | | G | | TP-10-2 | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | G | | TP-10-7 | | | |

Total depth: 7.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-11** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **09/07/11 to 09/07/11** | Northing | |
| Driller/Equipment | **NRCES/Excavator** | Easting | |
| Geologist/Engineer | **Christina Johnson** | Hole Depth | **7.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 0.0 to 7.0 feet: SILTY SAND with GRAVEL (SM); light brown; 30% fines; 50% sand; 20% gravel; occasional boulders and cobbles; moist. |
| 2 | | | | **G** | | **TP-11-2** | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | **G** | | **TP-11-7** | | | |

*Total depth: 7.0 feet bgs.*

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

GBLWC W:\GINT\GINTW\PROJECTS\0229.04.03 PORT OF CAMAS WASHOUGAL\TP.GPJ 1/13/12

**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-12** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/27/11 to 10/27/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **5.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | G | | TP-12-S-1.0 | | | 0.0 to 0.5 feet: ASPHALT. |
| | | | | | | | | | 0.5 to 3.0 feet: SILTY SAND (SM); gray; 35% fines, non-plastic; 65% sand, fine to medium; damp. |
| 2 | | | | | | | | | |
| 3 | | | | G | | TP-12-S-3.0 | | | 3.0 to 5.0 feet: SAND with SILT (SM) grayish brown; 15% fines, non-plastic; 85% sand, fine to medium; damp. |
| 4 | | | | | | | | | |
| | | | | G | | TP-12-S-5.0 | | | |
| 5 | | | | | | | | | |

Total depth: 5.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-13** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/27/11 to 10/27/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **5.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | G | | TP-13-S-1.0 | | | 0.0 to 0.3 feet: ASPHALT. |
| | | | | | | | | | 0.3 to 0.6 feet: SANDY GRAVEL (GW); 5% fines; 30% sand, fine to coarse; 65% gravel, fine to coarse, round to angular; strong petroleum-like odor; damp. |
| 2 | | | | | | | | | 0.6 to 1.0 feet: SILTY SAND (SM); gray; 40% fines, non-plastic; 60% sand, fine to medium; strong petroleum-like odor; damp. |
| | | | | | | | | | 1.0 to 3.0 feet: SANDY SILT (ML); dark gray; 65% fines, non-plastic; 35% sand, fine to medium; lots of woody debris; strong petroleum-like odor; damp. |
| 3 | | | | G | | TP-13-S-3.0 | | | |
| | | | | | | | | | 3.0 to 5.0 feet: SILTY SAND (SM); light brown; 15% fines, non-plastic; 85% sand, fine, trace medium. |
| 4 | | | | | | | | | |
| 5 | | | | G | | TP-13-S-5.0 | | | @ 5.0 feet: large cobbles. |
| | | | | | | | | | Total depth: 5.0 feet bgs. |

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-14** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/27/11 to 10/27/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **5.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | G | | TP-14-S-1.0 | | | 0.0 to 0.3 feet: ASPHALT. |
| | | | | | | | | | 0.3 to 0.5 feet: SANDY GRAVEL (GW); 30% sand, medium to coarse; 70% gravel, fine to coarse, round to angular; damp. |
| 2 | | | | | | | | | 0.5 to 1.5 feet: SAND with GRAVEL (SW); 85% sand, medium to coarse; 15% gravel, fine to coarse, angular to subangular; woody debris; damp. |
| 3 | | | | G | | TP-14-S-3.0 | | | 1.5 to 5.0 feet: SILTY SAND (SM); medium brown; 20% fines, non-plastic; 80% sand, fine, trace medium; trace gravel; damp. |
| 4 | | | | | | | | | |
| 5 | | | | G | | TP-14-S-5.0 | | | @4.0 feet: Grayish brown. |

Total depth: 5.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-15** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/27/11 to 10/27/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **5.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | G | | TP-15-S-1.0 | | | 0.0 to 0.3 feet: ASPHALT. |
| | | | | | | | | | 0.3 to 1.5 feet: SANDY GRAVEL (GW); grayish brown; 40% sand, medium to coarse; 60% gravel, round to angular, fine to coarse; trace cobble up to 5 inches in diameter; woody debris. |
| 2 | | | | | | | | | 1.5 to 4.0 feet: SILTY SAND (SM); medium brown; 20% fines, non-plastic; 80% sand, fine, trace medium; trace gravel; damp. |
| 3 | | | | G | | TP-15-S-3.0 | | | |
| 4 | | | | | | | | | |
| 5 | | | | G | | TP-15-S-5.0 | | | 4.0 to 5.0 feet: SILTY SAND (SM); gray and brown; 45% fines, non-plastic to low plasticity; 55% sand, fine; trace mica, muscovite; damp. |

Total depth: 5.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-16** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/27/11 to 10/27/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **10.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 0.0 to 2.5 feet: SANDY GRAVEL (GW); medium brown; 40% sand, medium to coarse; 60% gravel, medium to coarse, round to subround; grass and rootlets present to 0.5; damp. |
| 2 | | | | G | | TP-16-S-1.5 | | | |
| 3 | | | | | | | | | 2.5 to 7.0 feet: SANDY SILT with GRAVEL (ML); dark brown to dark gray; 65% fines, non-plastic to low plasticity; 20% sand, fine; 15% gravel, fine to coarse, round to angular; some cobble up to 12 inches in diameter; damp. |
| 4 | | | | G | | TP-16-S-4.0 | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | 7.0 to 10.0 feet: SANDY SILT (ML); light brown; 80% fines, non-plastic to low plasticity; 20% sand, fine; moist. |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | G | | TP-16-S-10.0 | | | |

Total depth: 10.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-17** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/27/11 to 10/27/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **10.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 0.0 to 0.2 feet: SANDY GRAVEL (GW); light brown; 40% sand, medium to coarse; 60% gravel, medium to coarse, round to subround; grass and rootlets present to 0.5; damp. |
| 2 | | | | G | | TP-17-1.5 | | | |
| 3 | | | | | | | | | 2.0 to 6.0 feet: SILTY SAND with GRAVEL (SW); dark gray; 20% fines, non-plastic; 65% sand, medium to coarse; 15% gravel, fine to coarse, round to angular; trace cobble; damp. |
| 4 | | | | G | | TP-17-S-4.0 | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | 6.0 to 10.0 feet: SANDY SILT (ML); light brown; 80% fines, non-plastic to low plasticity; 20% sand, fine; moist. |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | G | | TP-17-S-10.0 | | | |

Total depth: 10.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

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# Maul Foster & Alongi, Inc.

## Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-18** | **1 of 1** |

| | | | |
|---|---|---|---|
| *Project Name* | ***Port of Camas Washougal*** | *TOC Elevation (feet)* | |
| *Project Location* | ***Washougal, WA*** | *Surface Elevation (feet)* | |
| *Start/End Date* | ***10/27/11 to 10/27/11*** | *Northing* | |
| *Driller/Equipment* | ***Stratus/Excavator*** | *Easting* | |
| *Geologist/Engineer* | ***Meaghan Gallagher*** | *Hole Depth* | ***10.0-feet*** |
| *Sample Method* | ***Grab*** | *Outer Hole Diam* | ***-inch*** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 0.0 to 2.0 feet: SANDY GRAVEL (GW); light brown; 40% sand, medium to coarse; 60% gravel, medium to coarse, round to subround; grass and rootlets present to 0.5; damp. |
| 2 | | | | G | | TP-18-S-1.5 | | | |
| 3 | | | | | | | | | 2.0 to 7.0 feet: SILTY SAND with GRAVEL (SW); dark gray; 20% fines, non-plastic; 65% sand, medium to coarse; 15% gravel, fine to coarse, round to angular; trace cobble; damp. |
| 4 | | | | G | | TP-18-S-4.0 | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | 7.0 to 10.0 feet: SANDY SILT (ML); light brown; 80% fines, non-plastic to low plasticity; 20% sand, fine; moist. |
| 9 | | | | | | | | | |
| 10 | | | | G | | TP-18-S-10.0 | | | |

*Total depth: 10.0 feet bgs.*

***NOTES:*** *1) Test pit backfilled with overburden and wheel-compacted.*
*2) Samples collected approximately 0.5 foot above and below interval noted.*
*3) G = Grab sample.*

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-19** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/28/11 to 10/28/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **10.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 0.0 to 4.0 feet: SANDY GRAVEL (GW); medium brown; 5% fines; 20% sand, medium to coarse; 75% gravel, fine to coarse, round to angular; grass and rootlets to 0.5 feet; damp. |
| 2 | | | | G | | TP-19-S-1.5 | | | |
| 3 | | | | | | | | | |
| 4 | | | | G | | TP-19-S-3.5 | | | |
| 5 | | | | | | | | | 4.0 to 6.0 feet: SILTY SAND with GRAVEL (SW); dark gray; 20% fines, non-plastic; 65% sand, medium to coarse; 15% gravel, fine to coarse, round to angular; trace cobble; damp. |
| 6 | | | | | | | | | @ 5.5 to 6.0 feet: Gravel decreases, becomes 90% silt, 10% fine sand, rootlets throughout, petroleum like odor. |
| 7 | | | | | | | | | 6.0 to 10.0 feet: SANDY SILT (ML); light brown; 85% fines, non-plastic; 15% sand, fine; damp. |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | G | | TP-19-S-10.0 | | | |

Total depth: 10.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-20** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/28/11 to 10/28/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **10.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 0.0 to 1.5 feet: SANDY GRAVEL (GW); grayish brown; 40% sand, medium to coarse; 60% gravel, fine to coarse, round to angular; damp. |
| 2 | | | | G | | TP-20-S-1.5 | | | 1.5 to 6.5 feet: SILTY SAND with GRAVEL (SW); dark gray; 20% fines, non-plastic; 65% sand, medium to coarse; 15% gravel, fine to coarse, round to angular; trace cobble; damp. |
| 3 | | | | | | | | | |
| 4 | | | | G | | TP-20-S-4.0 | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | 6.5 to 10.0 feet: SILTY SAND (SM); light brown to orangish brown; 25% fines, non-plastic; 75% sand, fine, trace medium; trace mica, muscovite; damp. |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | G | | TP-20-S-10.0 | | | |

Total depth: 10.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

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# Maul Foster & Alongi, Inc.

## Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-21** | **1 of 1** |

| | | | |
|---|---|---|---|
| *Project Name* | ***Port of Camas Washougal*** | *TOC Elevation (feet)* | |
| *Project Location* | ***Washougal, WA*** | *Surface Elevation (feet)* | |
| *Start/End Date* | ***10/28/11 to 10/28/11*** | *Northing* | |
| *Driller/Equipment* | ***Stratus/Excavator*** | *Easting* | |
| *Geologist/Engineer* | ***Meaghan Gallagher*** | *Hole Depth* | ***10.0-feet*** |
| *Sample Method* | ***Grab*** | *Outer Hole Diam* | ***-inch*** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | *0.0 to 7.0 feet: SANDY GRAVEL (GW); medium brown; 40% sand, medium to coarse; 60% gravel, fine to coarse, round to angular; damp.* |
| 2 | | | | ***G*** | | ***TP-21-S-1.5*** | | | |
| 3 | | | | | | | | | |
| 4 | | | | ***G*** | | ***TP-21-S-4.0*** | | | *@4.0 feet: Includes cobbles, subround to subangular* |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | *7.0 to 10.0 feet: SILTY SAND (SM); light orangish brown to orangish brown; 25% fines, non-plastic; 75% sand, fine, trace medium; trace mica, muscovite; damp.* |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | ***G*** | | ***TP-21-S-10.0*** | | | |

*Total depth: 10.0 feet bgs.*

***NOTES:*** *1) Test pit backfilled with overburden and wheel-compacted.*
*2) Samples collected approximately 0.5 foot above and below interval noted.*
*3) G = Grab sample.*

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-22** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/28/11 to 10/28/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **10.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 0.0 to 7.0 feet: GRAVELLY SAND (SW); brown; 60% sand, medium to coarse; 40% gravel, fine to medium, round to angular; damp. |
| 2 | | | | G | | TP-22-S-1.5 | | | @1.6 feet: 0.2 foot layer of dark gray clayey gravel, very compact; 80% fines, high plasticity; 20% gravel, coarse, round to angular. |
| 3 | | | | | | | | | @2.0 feet: Grayish brown. |
| 4 | | | | G | | TP-22-S-3.0 | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | 7.0 to 10.0 feet: SANDY SILT with GRAVEL (ML); brownish gray; 75% fines, non-plastic; 15% sand, fine; 10% gravel, fine to coarse, angular to subangular; moist. |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | G | | TP-22-S-10.0 | | | |

Total depth: 10.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-23** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/28/11 to 10/28/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **5.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 0.0 to 0.5 feet: SILTY SAND (SM); dark brown; 20% fines, non-plastic; 80% sand, fine to medium; plants and rootlets throughout; damp. |
| | | | | | | | | | 0.5 to 1.0 feet: SAND (SP); orangish brown; 100% sand, fine to medium; very hard and compact; dry to damp. |
| 2 | | | | | | | | | 1.0 to 3.5 feet: SILTY SAND (SM); gray; 15% fines, non-plastic; 85% sand, medium; woody debris throughout; faint odor; damp. |
| 3 | | | | G | | TP-23-S-3.0 | | | |
| 4 | | | | G | | TP-23-S-5.0 | | | 3.5 to 5.0 feet: SANDY SILT (ML); gray; 70% fines, non-plastic; 30% sand, fine to medium; trace mica, muscovite; trace woody debris; damp. |
| 5 | | | | | | | | | |

*Total depth: 5.0 feet bgs.*

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-24** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/28/11 to 10/28/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **5.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | G | | TP-24-S-1.0 | | | 0.0 to 0.5 feet: SILTY SAND (SM); dark brown; 20% fines, non-plastic; 80% sand, fine to medium; plants and rootlets throughout; damp. |
| 2 | | | | | | | | | 0.5 to 4.0 feet: SANDY GRAVEL (GW); medium brown; trace fines; 40% sand, medium to coarse; 60% gravel, medium to coarse, angular to subround; some cobble up to 12 inches in diameter; damp. |
| 3 | | | | G | | TP-24-S-3.0 | | | @2.0 feet: Asphalt slab. |
| 4 | | | | | | | | | |
| 5 | | | | G | | TP-24-S-5.0 | | | 4.0 to 5.0 feet: SANDY SILT with GRAVEL (ML); 60% fines, non-plastic; 30% sand, fine; 10% gravel, round; damp. |

Total depth: 5.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-25** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/28/11 to 10/28/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **5.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | G | | TP-25-S-1.0 | | | 0.0 to 0.5 feet: SILTY SAND (SM); dark brown; 20% fines, non-plastic; 80% sand, fine to medium; plants and rootlets throughout; damp. |
| 2 | | | | | | | | | 0.5 to 1.5 feet: SANDY GRAVEL (GW); 30% sand, medium to coarse; 70% gravel, fine to medium, round to subangular; extremely strong petroleum-like odor; damp. |
| 3 | | | | G | | TP-25-S-3.0 | | | 1.5 to 5.0 feet: SAND (SP); gray; 100% sand, fine; trace mica, muscovite; odor continues; damp. |
| 4 | | | | | | | | | |
| 5 | | | | G | | TP-25-S-5.0 | | | @4.0 feet: 10% fines, low plasticity; moist. |

Total depth: 5.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-26** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/28/11 to 10/28/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **5.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | G | | TP-26-S-1.0 | | | 0.0 to 2.0 feet: SILTY SAND (SM); orange and gray; 25% fines, non-plastic; 75% sand, fine; trace mica, muscovite; odor; moist. |
| 2 | | | | | | | | | |
| 3 | | | | G | | TP-26-S-3.0 | | | 2.0 to 5.0 feet: SAND (SP); gray; 100% sand, fine; slight odor; moist. |
| 4 | | | | | | | | | |
| 5 | | | | G | | TP-26-S-5.0 | | | |

*Total depth: 5.0 feet bgs.*

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-27** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/28/11 to 10/28/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **5.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | G | | TP-27-S-1.0 | | | 0.0 to 5.0 feet: SAND (SP); gray; 100% sand, fine; slight odor; moist. |
| 2 | | | | | | | | | |
| 3 | | | | G | | TP-27-S-3.0 | | | @3.0 feet: 100% sand, medium; wet. |
| 4 | | | | | | | | | |
| 5 | | | | G | | TP-27-S-5.0 | | | |

Total depth: 5.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-28** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/28/11 to 10/28/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **5.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | G | | TP-28-S-1.0 | | | 0.0 to 0.5 feet: SANDY SILT with GRAVEL (ML); brown; 70% fines, non-plastic; 20% sand, fine to medium; 10% gravel, fine to coarse; subround to subangular; moist. |
| 2 | | | | | | | | | 0.5 to 5.0 feet: SAND (SP); gray; 100% sand, fine; slight odor; moist. |
| 3 | | | | G | | TP-28-S-3.0 | | | |
| 4 | | | | | | | | | |
| 5 | | | | G | | TP-28-S-5.0 | | | |

Total depth: 5.0 feet bgs bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **TP-29** | **1 of 1** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, WA** | Surface Elevation (feet) | |
| Start/End Date | **10/28/11 to 10/28/11** | Northing | |
| Driller/Equipment | **Stratus/Excavator** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **5.0-feet** |
| Sample Method | **Grab** | Outer Hole Diam | **-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | G | | TP-29-S-1.0 | | | 0.0 to 0.5 feet: ASPHALT. |
| 2 | | | | | | | | | 0.5 to 5.0 feet: SANDY GRAVEL (GW); 30% sand, coarse; 70% gravel, fine to coarse, angular to subangular. |
| 3 | | | | G | | TP-29-S-3.0 | | | |
| 4 | | | | | | | | | |
| 5 | | | | G | | TP-29-S-5.0 | | | |

Total depth: 5.0 feet bgs.

**NOTES:**
1) Test pit backfilled with overburden and wheel-compacted.
2) Samples collected approximately 0.5 foot above and below interval noted.
3) G = Grab sample.

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **MW-07** | **1 of 3** |

| | | | |
|---|---|---|---|
| Project Name | **Port of Camas-Washougal** | TOC Elevation (feet) | |
| Project Location | **Washougal, Washington** | Surface Elevation (feet) | |
| Start/End Date | **10/27/11 to 10/28/11** | Northing | |
| Driller/Equipment | **Major Drilling/Hollow Stem Auger** | Easting | |
| Geologist/Engineer | **Meaghan Gallagher** | Hole Depth | **41.5-feet** |
| Sample Method | **Split Spoon** | Outer Hole Diam | **8.25-inch** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 1–5 | | | | | | | | | |
| 5–6 | | | **30%** | **SS** | | **PID = 0.7 ppm** | **1 1 1 2** | | 5.0 to 6.5 feet: SILTY SAND (SM); brownish gray; 30% fines, non-plastic; 70% sand, fine to medium; trace woody debris; moist |
| 7–10 | | | | | | | | | |
| 10–11 | | | **66%** | **SS** | | **PID = 1.0 ppm** | **2 2 3 5** | | 10.0 to 11.5 feet: SAND (SP); gray; 100% sand, fine; moist.<br>10.5 feet: drillers note slight gravel, increasing to depth of boring. |
| 12–15 | | | | | | | | | |
| 15–16 | | | **80%** | **SS** | | **PID = 1.5 ppm** | **3 4 4 8** | | 15.0 to 16.5 feet: SILTY SAND (SM); dark brown; 35% fines, non-plastic; 65% sand, fine; trace woody debris; moist. |
| 17–20 | | | | | | | | | |

**NOTES:** *1) Water sample collected with 0.75-inch I.D. polyethylene tubing.*

▽ ***30.0 (Boring depth 30 feet bgs)***

▼ ***Water level 24.0 (Boring depth 40 feet bgs)***

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| 0229.04.03 | MW-07 | 2 of 3 |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|
| 21 | | | 85% | SS | | PID = 0.5 ppm | 5<br>5<br>4<br>9 | | 20.0 to 21.5 feet: SAND (SP); gray; 100% sand, fine to medium; damp to moist. |
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |
| 24 | ▼ | | | | | | | | |
| 25 | | | 85% | SS | | | 22<br>50 | | 25.0 to 26.0 feet: SAND (SP) gray; 100% sand, fine to medium; trace fines and coarse white sand; saturated. |
| 26 | | | | | | | | | @ 26.0 feet: Cobble encountered. |
| 27 | | | | | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | ▽ | | 30% | SS | | PID = 0.6 ppm<br>MW-7 (water) | 9<br>17<br>14<br>31 | | 30.0 to 31.5 feet: SILTY GRAVEL with SAND (GW-GM); gray; 30% fines, non-plastic; 10% sand, fine; 60% gravel, fine to coarse, angular; odor; saturated |
| 31 | | | | | | | | | |
| 32 | | | | | | | | | |
| 33 | | | | | | | | | |
| 34 | | | | | | | | | |
| 35 | | | 100% | SS | | PID = 0.4 ppm | 29<br>30<br>31<br>61 | | 40.0 to 41.5 feet: SILTY GRAVEL (GM); gray; 20% fines, non-plastic; 20% sand, coarse; 60% gravel, fine to coarse, round to angular; saturated. |
| 36 | | | | | | | | | |
| 37 | | | | | | | | | |
| 38 | | | | | | | | | |
| 39 | | | | | | | | | |
| 40 | | | | | | | | | 35 to 41.5 feet bgs: Assumed through drilling action and driller notes. |
| 41 | | | | | | | | | |

Total Depth: 41.5 feet bgs
Drillers note varying gravel and cobbles from 5 feet bgs to depth.

**NOTES:** 1) Water sample collected with 0.75-inch I.D. polyethylene tubing.

▽ **30.0 (Boring depth 30 feet bgs)**

▼ **Water level 24.0 (Boring depth 40 feet bgs)**

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**Maul Foster & Alongi, Inc.**

# Geologic Borehole Log/Well Construction

| Project Number | Well Number | Sheet |
|---|---|---|
| **0229.04.03** | **MW-07** | **3 of 3** |

| Depth (feet, BGS) | Well Details | Sample Data: Interval | Percent Recovery | Collection Method | Number | Name (Type) | Blows/6" | Lithologic Column | Soil Description |
|---|---|---|---|---|---|---|---|---|---|

*Borehole Completion Details*
*0 to 40.0 feet bgs: 8.25-inch borehole.*
*0 to 0.5 feet bgs: Cement.*
*0.5 to 17.1 feet bgs: Bentonite chips hydrated with potable water.*
*17.1 to 35.3 feet bgs: 10x20 silica sand.*
*35.3 to 40.0 feet bgs: Sluff.*

*Well Completion Details*
*+2.9 to 20.3 feet bgs: 2-inch, Schedule 40, PVC blank riser.*
*20.3 to 35.0 feet bgs: 2-inch, Schedule 40, 0.010-inch machine slotted screen.*
*35.0 to 35.3 feet bgs: Well cap.*

***NOTES:*** *1) Water sample collected with 0.75-inch I.D. polyethylene tubing.*

▽ ***30.0 (Boring depth 30 feet bgs)***

▼ ***Water level 24.0 (Boring depth 40 feet bgs)***

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# APPENDIX B

## GROUNDWATER FIELD SAMPLING DATA SHEETS

# Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

## Water Field Sampling Data Sheet

| | | | | | |
|---|---|---|---|---|---|
| **Client Name** | Port of Camas Washougal | **Sample Location** | MW-2 | | |
| **Project #** | 0229.04.03 | **Sampler** | MRM & MKG | | |
| **Project Name** | Former Hambleton Lumber | **Sampling Date** | 9/6/2011 | | |
| **Sampling Event** | Sept. 2011 | **Sample Name** | MW-2 | | |
| **Sub Area** | | **Sample Depth** | 33 | | |
| **FSDS QA:** | MKG | **Easting** | | **Northing** | **TOC** |

### Hydrology/Level Measurements

| | | | | | (Product Thickness) | (Water Column) | (Gallons/ft x Water Column) |
|---|---|---|---|---|---|---|---|
| **Date** | **Time** | **DT-Bottom** | **DT-Product** | **DT-Water** | **DTP-DTW** | **DTB-DTW** | **Pore Volume** |
| 09/06/2011 | 10:08 | 40.15 | | 31.16 | | 8.99 | |

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

### Water Quality Data

| Purge Method | Time | Purge Vol (gal) | Flowrate l/min | pH | Temp (C) | E Cond (uS/cm) | DO (mg/L) | EH | Turbidity |
|---|---|---|---|---|---|---|---|---|---|
| (5) Inertia Pump | 10:44 | 0.5 | 0.2 | 4.86 | 21.46 | 210 | 3.61 | 187.3 | 101 |
| | 10:54 | 1.0 | 0.2 | 5.81 | 17.64 | 184 | 1.72 | 132.3 | 72 |
| | 11:04 | 1.5 | 0.2 | 7.30 | 16.48 | 174 | 1.25 | -5 | 43 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Final Field Parameters | 11:15 | 2.0 | 0.2 | 7.45 | 18.83 | 185 | 0.95 | 4.3 | 11.9 |

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

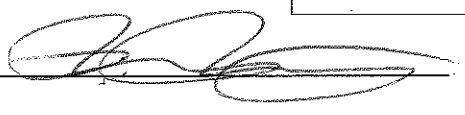
**Water Quality Observations:** Slight sulfur odor, clear & colorless

### Sample Information

| Sampling Method | Sample Type | Sampling Time | Container Code/Preservative | # | Filtered |
|---|---|---|---|---|---|
| (5) Inertia Pump | Groundwater | 11:15:00 AM | VOA-Glass | 3 | No |
| | | | Amber Glass | 5 | No |
| | | | White Poly | 1 | No |
| | | | Yellow Poly | 0 | |
| | | | Green Poly | 0 | |
| | | | Red Total Poly | 0 | |
| | | | Red Dissolved Poly | 0 | |
| | | | Total Bottles | 9 | |

**General Sampling Comments**

Low flow sample using waterra pump.
Existing tubing removed from well

Signature 

# Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

## Water Field Sampling Data Sheet

| | | | | | |
|---|---|---|---|---|---|
| **Client Name** | Port of Camas Washougal | **Sample Location** | MW-3 | | |
| **Project #** | 0229.04.03 | **Sampler** | MRM & MKG | | |
| **Project Name** | Former Hambleton Lumber | **Sampling Date** | 9/6/2011 | | |
| **Sampling Event** | Sept. 2011 | **Sample Name** | MW-3 | | |
| **Sub Area** | | **Sample Depth** | 40 | | |
| **FSDS QA:** | MKG | **Easting** | | **Northing** | **TOC** |

### Hydrology/Level Measurements

| | | | | | (Product Thickness) | (Water Column) | (Gallons/ft x Water Column) |
|---|---|---|---|---|---|---|---|
| **Date** | **Time** | **DT-Bottom** | **DT-Product** | **DT-Water** | **DTP-DTW** | **DTB-DTW** | **Pore Volume** |
| 09/06/2011 | 9:00 | 47.48 | | 31.02 | | 16.46 | 2.68 |

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

### Water Quality Data

| **Purge Method** | **Time** | **Purge Vol (gal)** | **Flowrate l/min** | **pH** | **Temp (C)** | **E Cond (uS/cm)** | **DO (mg/L)** | **EH** | **Turbidity** |
|---|---|---|---|---|---|---|---|---|---|
| (5) Inertia Pump | 12:18 | 0.5 | 0.2 | 4.8 | 15.96 | 119 | 6.75 | 212.3 | 604 |
| | 12:28 | 1.0 | 0.2 | 7.08 | 15.90 | 121 | 5.89 | 52 | 170 |
| | 12:59 | 2.5 | 0.2 | 8.26 | 16.31 | 123 | 5.23 | 10.6 | 112 |
| | 1:10 | 3.0 | 0.2 | 7.36 | 16.56 | 122 | 5.2 | 26.4 | 65 |
| | 1:40 | 4.5 | 0.2 | 7.60 | 17.02 | 121 | 5.25 | 0.6 | 25 |
| | | | | | | | | | |
| Final Field Parameters | 2:20 | 7.0 | 0.2 | 7.60 | 17.80 | 121 | 5.16 | -6.5 | 9.24 |

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

### Water Quality Observations:

### Sample Information

| **Sampling Method** | **Sample Type** | **Sampling Time** | **Container Code/Preservative** | **#** | **Filtered** |
|---|---|---|---|---|---|
| (5) Inertia Pump | Groundwater | 2:20:00 PM | VOA-Glass | 3 | No |
| | | | Amber Glass | 5 | No |
| | | | White Poly | 1 | No |
| | | | Yellow Poly | | |
| | | | Green Poly | | |
| | | | Red Total Poly | | |
| | | | Red Dissolved Poly | | |
| | | | Total Bottles | 9 | |

### General Sampling Comments

Low flow sample using waterra pump.
Existing tubing removed from well.

Signature

# Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

## Water Field Sampling Data Sheet

| | | | | | |
|---|---|---|---|---|---|
| **Client Name** | Port of Camas Washougal | **Sample Location** | MW-4 | | |
| **Project #** | 0229.04.03 | **Sampler** | MRM & MKG | | |
| **Project Name** | Former Hambleton Lumber | **Sampling Date** | 9/6/2011 | | |
| **Sampling Event** | Sept. 2011 | **Sample Name** | MW-4 | | |
| **Sub Area** | | **Sample Depth** | 40 | | |
| **FSDS QA:** | MKG | **Easting** | | **Northing** | **TOC** |

### Hydrology/Level Measurements

| | | | | | (Product Thickness) | (Water Column) | (Gallons/ft x Water Column) |
|---|---|---|---|---|---|---|---|
| **Date** | **Time** | **DT-Bottom** | **DT-Product** | **DT-Water** | **DTP-DTW** | **DTB-DTW** | **Pore Volume** |
| 09/06/2011 | 9:15 | 45.76 | | 37.38 | | 8.38 | 1.36 |

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

### Water Quality Data

| **Purge Method** | **Time** | **Purge Vol (gal)** | **Flowrate l/min** | **pH** | **Temp (C)** | **E Cond (uS/cm)** | **DO (mg/L)** | **EH** | **Turbidity** |
|---|---|---|---|---|---|---|---|---|---|
| (5) Inertia Pump | 15:20 | 0.25 | 0.5 | 6.37 | 20.83 | 395 | 3.85 | 77.0 | 590 |
| | 15:30 | 1.5 | 0.5 | 7.51 | 18.83 | 363 | 0.56 | -9.9 | 402 |
| | 15:40 | 2.75 | 0.5 | 7.62 | 19.08 | 364 | 0.27 | -27.1 | 590 |
| | 15:50 | 3.75 | 0.2 | 7.66 | 23.61 | 401 | 0.19 | -31.6 | 580 |
| | 16:45 | 5.25 | 0.2 | 7.55 | 20.43 | 373 | 0.10 | -5.4 | 190 |
| | 17:50 | 11.5 | 0.2 | 7.65 | 19.48 | 369 | 0.07 | -23.3 | 35.6 |
| Final Field Parameters | 18:20 | 14 | 0.2 | 7.61 | 19.04 | 364 | 0.06 | -26.2 | 32 |

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

### Water Quality Observations:

### Sample Information

| **Sampling Method** | **Sample Type** | **Sampling Time** | **Container Code/Preservative** | **#** | **Filtered** |
|---|---|---|---|---|---|
| (5) Inertia Pump | Groundwater | 6:20:00 PM | VOA-Glass | 3 | No |
| | | | Amber Glass | 5 | No |
| | | | White Poly | 1 | No |
| | | | Yellow Poly | | |
| | | | Green Poly | | |
| | | | Red Total Poly | | |
| | | | Red Dissolved Poly | | |
| | | | Total Bottles | 9 | |

### General Sampling Comments

Low flow sample using waterra pump.
Existing tubing removed from well.

Signature

# Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

## Water Field Sampling Data Sheet

| | | | | | |
|---|---|---|---|---|---|
| **Client Name** | Port of Camas Washougal | **Sample Location** | MW-5 | | |
| **Project #** | 0229.04.03 | **Sampler** | MRM & MKG | | |
| **Project Name** | Former Hambleton Lumber | **Sampling Date** | 9/7/2011 | | |
| **Sampling Event** | Sept. 2011 | **Sample Name** | MW-5 | | |
| **Sub Area** | | **Sample Depth** | 36 | | |
| **FSDS QA:** | MKG | **Easting** | | **Northing** | **TOC** |

### Hydrology/Level Measurements

| | | | | | (Product Thickness) | (Water Column) | (Gallons/ft x Water Column) |
|---|---|---|---|---|---|---|---|
| **Date** | **Time** | **DT-Bottom** | **DT-Product** | **DT-Water** | **DTP-DTW** | **DTB-DTW** | **Pore Volume** |
| 09/06/2011 | 9:45 | 41.40 | | 29.63 | | | |

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

### Water Quality Data

| Purge Method | Time | Purge Vol (gal) | Flowrate l/min | pH | Temp (C) | E Cond (uS/cm) | DO (mg/L) | EH | Turbidity |
|---|---|---|---|---|---|---|---|---|---|
| (5) Inertia Pump | 9:36 | 0.75 | 0.3 | 8.17 | 17.32 | 151 | 7.62 | 31.4 | 230 |
| | 9:46 | 1.25 | 0.3 | 7.75 | 16.20 | 144 | 5.17 | 41 | 88 |
| | 10:06 | 2.5 | 0.3 | 7.74 | 16.44 | 144 | 2.36 | 36.9 | 36.4 |
| | 10:16 | 3.0 | 0.3 | 7.76 | 16.75 | 145 | 1.33 | 29.3 | 31 |
| | 10:22 | 4.5 | 0.3 | 7.76 | 16.87 | 146 | 0.70 | 24.9 | 30 |
| | | | | | | | | | |
| Final Field Parameters | 10:30 | 5.5 | 0.3 | 7.76 | 16.97 | 146 | 0.65 | 22.5 | 27 |

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

### Water Quality Observations:

### Sample Information

| Sampling Method | Sample Type | Sampling Time | Container Code/Preservative | # | Filtered |
|---|---|---|---|---|---|
| (5) Inertia Pump | Groundwater | 10:30:00 AM | VOA-Glass | 3 | No |
| | | | Amber Glass | 5 | No |
| | | | White Poly | 1 | No |
| | | | Yellow Poly | | |
| | | | Green Poly | | |
| | | | Red Total Poly | | |
| | | | Red Dissolved Poly | | |
| | | | Total Bottles | 9 | |

### General Sampling Comments

Low flow sample with waterra pump.
Existing tubing removed from well.

Signature

# Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

## Water Field Sampling Data Sheet

| | | | | | |
|---|---|---|---|---|---|
| **Client Name** | Port of Camas Washougal | **Sample Location** | MW-6 | | |
| **Project #** | 0229.04.03 | **Sampler** | MRM & MKG | | |
| **Project Name** | Former Hambleton Lumber | **Sampling Date** | 9/7/2011 | | |
| **Sampling Event** | Sept. 2011 | **Sample Name** | MW-6 | | |
| **Sub Area** | | **Sample Depth** | 42 | | |
| **FSDS QA:** | MKG | **Easting** | | **Northing** | **TOC** |

### Hydrology/Level Measurements

| | | | | | (Product Thickness) | (Water Column) | (Gallons/ft x Water Column) |
|---|---|---|---|---|---|---|---|
| **Date** | **Time** | **DT-Bottom** | **DT-Product** | **DT-Water** | **DTP-DTW** | **DTB-DTW** | **Pore Volume** |
| 09/06/2011 | 9:30 | 48.58 | | 33.39 | | 15.19 | 2.47 |

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

### Water Quality Data

| **Purge Method** | **Time** | **Purge Vol (gal)** | **Flowrate l/min** | **pH** | **Temp (C)** | **E Cond (uS/cm)** | **DO (mg/L)** | **EH** | **Turbidity** |
|---|---|---|---|---|---|---|---|---|---|
| (5) Inertia Pump | 8:30 | 0.25 | 0.2 | 7.17 | 15.25 | 108 | 2.35 | 59 | 70 |
| | 8:45 | 1.25 | 0.2 | 7.23 | 15.37 | 107 | 1.52 | 41.7 | 10.2 |
| | 8:55 | 1.75 | 0.2 | 7.12 | 15.52 | 107 | 1.33 | 46.7 | 7.0 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Final Field Parameters | 9:00 | 2.0 | 0.2 | 7.28 | 15.47 | 107 | 1.29 | 51.2 | 5.9 |

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

**Water Quality Observations:** clear & colorless

### Sample Information

| **Sampling Method** | **Sample Type** | **Sampling Time** | **Container Code/Preservative** | **#** | **Filtered** |
|---|---|---|---|---|---|
| (5) Inertia Pump | Groundwater | 9:00:00 AM | VOA-Glass | 3 | No |
| | | | Amber Glass | 5 | No |
| | | | White Poly | 1 | No |
| | | | Yellow Poly | | |
| | | | Green Poly | | |
| | | | Red Total Poly | | |
| | | | Red Dissolved Poly | | |
| | | | Total Bottles | 9 | |

**General Sampling Comments**

Low flow sample using waterra pump.
Existing tubing removed from well.

Signature

# Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

## Water Field Sampling Data Sheet

| | | | | | |
|---|---|---|---|---|---|
| **Client Name** | Port of Camas Washougal | **Sample Location** | MW-7 | | |
| **Project #** | 0229.04.03 | **Sampler** | MRM | | |
| **Project Name** | Former Hambleton Lumber | **Sampling Date** | 10/28/2011 | | |
| **Sampling Event** | Oct. 2011 | **Sample Name** | MW-7 | | |
| **Sub Area** | | **Sample Depth** | 30 | | |
| **FSDS QA:** | MRM 11/11/11 | **Easting** | | **Northing** | | **TOC** | |

### Hydrology/Level Measurements

| | | | | | (Product Thickness) | (Water Column) | (Gallons/ft x Water Column) |
|---|---|---|---|---|---|---|---|
| **Date** | **Time** | **DT-Bottom** | **DT-Product** | **DT-Water** | **DTP-DTW** | **DTB-DTW** | **Pore Volume** |
| 10/27/2011 | 9:00:00 | 36.14 | | 20.61 | | 15.53 | 2.53 |

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

### Water Quality Data

| **Purge Method** | **Time** | **Purge Vol (gal)** | **Flowrate l/min** | **pH** | **Temp (C)** | **E Cond (uS/cm)** | **DO (mg/L)** | **EH** | **Turbidity** |
|---|---|---|---|---|---|---|---|---|---|
| (5) Inertia Pump | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Final Field Parameters | 12:30 | 315 | 0.2 | 5.92 | 14.53 | 91 | 0.64 | -173.7 | 82.51 |

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

**Water Quality Observations:** Significant water volume removed during development, water was still turbid.

### Sample Information

| **Sampling Method** | **Sample Type** | **Sampling Time** | **Container Code/Preservative** | **#** | **Filtered** |
|---|---|---|---|---|---|
| (5) Inertia Pump | Groundwater | 12:30:00 PM | VOA-Glass | 5 | No |
| | | | Amber Glass | 4 | No |
| | | | White Poly | 0 | No |
| | | | Yellow Poly | 0 | |
| | | | Green Poly | 0 | |
| | | | Red Total Poly | 1 | |
| | | | Red Dissolved Poly | 1 | Yes |
| | | | Total Bottles | 11 | |

**General Sampling Comments** Well developed just prior to sampling. Sample collected using low-flow technique.

Signature 

# APPENDIX C

## HISTORICAL LOG POND ANALYTICAL DATA

Table 6. Summary of Analytical Data, Sediment

| Location ID | | SD01 | SD02 | Maximum Soil Concetnration (remaining soil) | MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses | EPA Region VI SSLs Soil (Residential) | Background Concentrations (metals)[1] | COPC?[2] |
|---|---|---|---|---|---|---|---|---|
| Sample ID | | SD01-3-4' | SD02-2-3' | | | | | |
| Date Sampled | | 7/10/2008 | 7/10/2008 | | | | | |
| Depth Sampled (feet) | | 3-4' | 2-3' | | | | | |
| Sample By | | ENW | ENW | | | | | |
| Location | | Sediment from the northwestern portion of the log pond | Sediment from the southeastern portion of the log pond | | | | | |
| Constituent of Interest | Note | mg/Kg (ppm) | | mg/Kg (ppm) | mg/Kg (ppm) | mg/Kg (ppm) | mg/Kg (ppm) | Y / N |
| Polynuclear Aromatic Hydrocarbons | | | | | | | | |
| Acenaphthene | nc, v | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | NE | 3700 | NE | N |
| Anthracene | nc, v | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | NE | 22000 | NE | N |
| Benz[a]anthracene | c, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | 0.1 (**) | 0.15 | NE | (Y) |
| Benzo[a]pyrene | c, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | 0.1 (**) | 0.015 | NE | (Y) |
| Benzo[b]fluoranthene | c, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | 0.1 (**) | 0.15 | NE | (Y) |
| Benzo[k]fluoranthene | c, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | 0.1 (**) | 1.5 | NE | (Y) |
| Chrysene | c, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | 0.1 (**) | 15 | NE | (Y) |
| Dibenz[a,h]anthracene | c, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | 0.1 (**) | 0.015 | NE | (Y) |
| Fluoranthene | nc, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | NE | 2300 | NE | N |
| Fluorene | nc, v | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | NE | 2600 | NE | N |
| Indeno[1,2,3-cd]pyrene | c, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | 0.1 (**) | 0.15 | NE | (Y) |
| Naphthalene | nc, v | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | 5 n | 120 | NE | N |
| 1-Methylnaphthalene | nc, v | <3 (ND) | <3 (ND) | <3 (ND) | | NE | | N |
| 2-Methylnaphthalene | nc, v | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | | NE | | N |
| Pyrene | nc, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | 0.1 | 2300 | NE | (Y) |
| Volatile Organic Constituents (VOCs) | | | | | | | | |
| Acetone | c, v | 3.5 | 2.2 | 3.5 | NE | 14,000 | NE | N |
| Benzene | c, v | <0.03 (ND) | <0.03 (ND) | <0.03 (ND) | 0.03 | 0.66 | NE | N |
| Bromodichloromethane | c, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 1.0 | NE | N |
| Bromoform | c, nv | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 62 | NE | N |
| Bromomethane | nc, v | <0.5 (ND) | <0.5 (ND) | <0.5 (ND) | NE | 3.9 | NE | N |
| 2-Butanone (MEK) | nc, v | <0.5 (ND) | <0.5 (ND) | <0.5 (ND) | NE | 32000 | NE | N |
| Butylbenzene, n- | nc, v | <0.5 (ND) | <0.5 (ND) | <0.5 (ND) | NE | 140 | NE | N |
| Butylbenzene, sec- | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 110 | NE | N |
| Carbon tetrachloride | c, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 0.24 | NE | N |
| Chlorobenzene | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 270 | NE | N |
| Chlorodibromomethane | c, nv | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | NE | NE | N |
| Chloroethane | c, v | <0.5 (ND) | <0.5 (ND) | <0.5 (ND) | NE | NE | NE | N |
| Chloroform | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 0.25 | NE | N |
| Chloromethane | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 1.3 | NE | N |
| Dichlorobenzene, 1,2- | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 280 | NE | N |
| Dichlorobenzene, 1,3- | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 69 | NE | N |
| Dichlorobenzene, 1,4- | c, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 3.2 | NE | N |
| Dichloroethane, 1,1- | c, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 850 | NE | N |
| Dichloroethene, 1,1- | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 280 | NE | N |
| Dichloroethene, cis-1,2- | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 43 | NE | N |
| Dichloroethene, trans-1,2- | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 120 | NE | N |
| Dichloroethylether | c, v | <0.5 (ND) | <0.5 (ND) | <0.5 (ND) | NE | NE | NE | N |
| Dichloromethane (methylene chloride) | c, v | **0.92** | **1.2** | **1.2** | 0.02 | NE | NE | Y |
| EDB (1,2-dibromoethane) | c, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | 0.005 | 0.028 | NE | (Y) |
| EDC (1,2-dichloroethane) | c, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 0.35 | NE | N |
| Ethylbenzene | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | 6 | 230 | NE | N |
| Isopropylbenzene, p- | | 0.40 | 1.1 | 1.1 | NE | NE | NE | N |
| MTBE (methyl t-butyl ether) | c, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | 0.1 | 32 | NE | N |
| Naphthalene | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | 5 n | 120 | NE | N |
| Propylbenzene, iso- (Cumene) | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 370 | NE | N |
| Propylbenzene, n- | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 140 | NE | N |
| Styrene | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 1700 | NE | N |
| Tetrachloroethene (PCE) | c, v | <0.025 (ND) | <0.025 (ND) | <0.025 (ND) | 0.05 | 0.55 | NE | N |
| Toluene | nc, v | 0.26 | 5.0 | 5.0 | 7 | 520 | NE | N |
| Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113) | nc, v | — | — | <0 (ND) | NE | NE | NE | N |
| Trichloroethane, 1,1,1- | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | 2 | 1400 | NE | N |
| Trichloroethane, 1,1,2- | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 0.84 | NE | N |
| Trichloroethene | c, v | <0.03 (ND) | <0.03 (ND) | <0.03 (ND) | 0.03 | 0.043 | NE | N |
| Trichlorofluoromethane (Freon 11) | nc, v | <0.5 (ND) | <0.5 (ND) | <0.5 (ND) | NE | 390 | NE | N |
| Trimethylbenzene, 1,2,4- | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 52 | NE | N |
| Trimethylbenzene, 1,3,5- | nc, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 21 | NE | N |
| Vinyl chloride | c, v | <0.05 (ND) | <0.05 (ND) | <0.05 (ND) | NE | 0.043 | NE | (Y) |
| Xylenes | nc, v | <0.15 (ND) | <0.15 (ND) | <0.15 (ND) | 9 | 210 | NE | N |
| Polychlorinated Biphenyls (PCBs) | | | | | | | | |
| Aroclor 1016 | c, nv | <0.1 (ND) | <0.1 (ND) | <0.1 (ND) | 1 | 3.9 | NE | N |
| Aroclor 1221 | c, nv | <0.1 (ND) | <0.1 (ND) | <0.1 (ND) | 1 | 0.22 | NE | N |
| Aroclor 1232 | c, nv | <0.1 (ND) | <0.1 (ND) | <0.1 (ND) | 1 | 0.22 | NE | N |
| Aroclor 1242 | c, nv | <0.1 (ND) | <0.1 (ND) | <0.1 (ND) | 1 | 0.22 | NE | N |
| Aroclor 1248 | c, nv | <0.1 (ND) | <0.1 (ND) | <0.1 (ND) | 1 | 0.22 | NE | N |
| Aroclor 1254 | c, nv | <0.1 (ND) | <0.1 (ND) | <0.1 (ND) | 1 | 0.22 | NE | N |
| Aroclor 1260 | c, nv | <0.1 (ND) | <0.1 (ND) | <0.1 (ND) | 1 | 0.22 | NE | N |
| Non-Volatile Organic Constituents (SVOCs) | | | | | | | | |
| Benzoic acid | nc, nv | 18 | 18 | 18 | NE | 100,000 | NE | N |
| Benzyl butyl phthalate | nc, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | NE | 240 | NE | N |
| Bis(2-ethylhexyl)phthalate | c, nv | 3.4 | <3 (ND) | 3.4 | NE | 35 | NE | N |
| Dibenzofuran | nc, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | NE | 150 | NE | N |
| Diethyl phthalate | nc, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | NE | 49,000 | NE | N |
| Dimethyl phthalate | nc, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | NE | 100,000 | NE | N |

DRAFT

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Dinitrotoluene, 2,6- | nc, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | NE | 61 | NE | N |
| Di-n-butyl phthalate | nc, nv | 0.54 | <0.3 (ND) | 0.54 | NE | NE | NE | N |
| Di-n-octyl phthalate | nc, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | NE | NE | NE | N |
| Hexachloroethane | c, nv | <0.3 (ND) | <0.3 (ND) | <0.3 (ND) | NE | 35 | NE | N |
| 4-Methylphenol | nc, nv | 60 | 100 | 100 | NE | 310 | NE | N |
| Pentachlorophenol | c, nv | <3 (ND) | <3 (ND) | <3 (ND) | NE | 3 | NE | N |
| Phenol | c, nv | 13 | 11 | 13 | NE | 18,000 | NE | N |
| Trichlorophenol, 2,4,6- | c, nv | <3 (ND) | <3 (ND) | <3 (ND) | NE | 44 | NE | N |
| Metals | | | | | | | | |
| Arsenic | c, nv | <1 (ND) | <1 (ND) | <1 (ND) | 20 | 0.39 | 7 | (Y) |
| Antimony | nc, nv | 14.1 | <1 (ND) | 14.1 | NE | 31 | NE | N |
| Barium | nc, nv | 51.1 | 33.7 | 51.1 | NE | 16,000 | NE | N |
| Beryllium | nc, nv | <1 (ND) | <1 (ND) | <1 (ND) | NE | 150 | 2 | N |
| Cadmium | c, nv | <1 (ND) | <1 (ND) | <1 (ND) | 2 | 39 | 1 | N |
| Chromium (III) | nc, nv | 12.7 | 6.23 | 12.7 | 2000 | 100,000 | NE | N |
| Copper | nc, nv | **316** | 12.1 | **316** | NE | 2900 | 36 | (N) |
| Lead | NA, nv | **76** | 4.92 | **76** | 250 | 400 | 17 | (N) |
| Mercury | nc, nv | <0.2 (ND) | <0.2 (ND) | <0.2 (ND) | 2 | 23 | 0.07 | N |
| Nickel | nc, nv | 9.98 | 2.70 | 9.98 | NE | 1600 | 38 | N |
| Selenium | nc, nv | <1 (ND) | <1 (ND) | <1 (ND) | NE | 390 | NE | N |
| Silver | nc, nv | <1 (ND) | <1 (ND) | <1 (ND) | NE | 390 | NE | N |
| Thallium | nc, nv | <1 (ND) | <1 (ND) | <1 (ND) | NE | 5.5 | NE | N |
| Zinc | nc, nv | 40.4 | 23.2 | 40.4 | NE | 23000 | 86 | N |
| Total Petroleum Hydrocarbons | | | | | | | | |
| GRO | nc, v | 18 | 80 | 80 | 100 | NE | NE | N |
| DRO | nc, nv | **3400 x** | **3600 x** | **3600** | 2000 | NE | NE | Y |
| RRO | nc, nv | **7200 y** | **8800 y** | **8800** | 2000 | NE | NE | Y |

Notes:
NC = not detected at or above laboratory method reporting limits
NE = not established
— = not analyzed or not applicable
< = not detected at or above the method reporting limit shown
mg/Kg = milligram per kilogram
c = carcinogenic
nc = noncarcinogenic
v = volatile
nv = nonvolatile
GRO = gasoline-range organics
DRO = diesel-range organics
RRO = residual-range organics
**Bolded** concentrations exceed MTCA Method A Cleanup Levels or EPA Region XI SSLs (indicated with a Y in the last column)
(Y) indicates analyte not detected, but detection limit is above screening concentration.
(N) indicates analyte does not exceed cleanup screening level; however, does exceed background concentration
[1] Background concentrations from ECOLOGY Publication #94-115
[2] MTCA Method A used as primary screening. EPA Region XI SSLs used only if no MTCA Standard available
x = the pattern of peaks is not indicative of diesel
y = the pattern of peaks is not indicative of motor oil
** Cleanup level of carcinogenic PAHs based on cleanup standard for benzo[a]pyrene. Toxicity equivalency factors must be used to take into account presence of other carcinogenic PAHs.
n = MTCA Method A Cleanup level for all naphthalenes (total of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene)

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Table 7. Summary of Analytical Data, Sediment (Normalized to Total Organic Carbon)

| Location ID | | SD01 | SD02 | Maximum Soil Concetnration (remaining soil) | Marine Sediment Quality Standards | Background Concentrations (metals)[1] | COPC?[2] |
|---|---|---|---|---|---|---|---|
| Sample ID | | SD01-3-4' | SD02-2-3' | | | | |
| Date Sampled | | 7/10/2008 | 7/10/2008 | | | | |
| Depth Sampled (feet) | | 3-4' | 2-3' | | | | |
| Sample By | | ENW | ENW | | | | |
| Location | | Sediment from the northwestern portion of the log pond | Sediment from the southeastern portion of the log pond | | | | |
| Constituent of Interest | Note | mg/Kg (ppm) | | mg/Kg (ppm) | mg/Kg (ppm) | mg/Kg (ppm) | TRUE / FALSE |
| Polynuclear Aromatic Hydrocarbons (Normalized on a Total Organic Carbon Basis) | | | | | | | |
| Acenaphthene | nc, v | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | 16 | NE | FALSE |
| Anthracene | nc, v | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | 220 | NE | FALSE |
| Benz[a]anthracene | c, nv | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | 110 | NE | FALSE |
| Benzo[a]pyrene | c, nv | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | 99 | NE | FALSE |
| Benzo[b]fluoranthene | c, nv | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | 230 | NE | FALSE |
| Benzo[k]fluoranthene | c, nv | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | | | |
| Benzo(g,h,i)perylene | c, nv | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | 31 | NE | FALSE |
| Chrysene | c, nv | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | 110 | NE | FALSE |
| Dibenz[a,h]anthracene | c, nv | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | 12 | NE | FALSE |
| Fluoranthene | nc, nv | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | 160 | NE | FALSE |
| Fluorene | nc, v | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | 23 | NE | FALSE |
| Indeno[1,2,3-cd]pyrene | c, nv | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | 34 | NE | FALSE |
| Naphthalene | nc, v | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | 99 | NE | FALSE |
| 1-Methylnaphthalene | nc, v | <17.5 (ND) | <11.8 (ND) | <17.5 (ND) | NE | NE | FALSE |
| 2-Methylnaphthalene | nc, v | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | 38 | NE | FALSE |
| Phenanthrene | nc, nv | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | 100 | NE | FALSE |
| Pyrene | nc, nv | <1.75 (ND) | <1.18 (ND) | <1.75 (ND) | 1000 | NE | FALSE |
| Volatile Organic Constituents (VOCs) (Normalized on a Total Organic Carbon Basis) | | | | | | | |
| Acetone | c, v | 20.5 | 8.6 | 20.5 | NE | NE | FALSE |
| Benzene | c, v | <0.18 (ND) | <0.12 (ND) | <0.2 (ND) | NE | NE | FALSE |
| Bromodichloromethane | c, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Bromoform | c, nv | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Bromomethane | nc, v | <2.9 (ND) | <2.0 (ND) | <2.9 (ND) | NE | NE | FALSE |
| 2-Butanone (MEK) | nc, v | <2.9 (ND) | <2.0 (ND) | <2.9 (ND) | NE | NE | FALSE |
| Butylbenzene, n- | nc, v | <2.9 (ND) | <2.0 (ND) | <2.9 (ND) | NE | NE | FALSE |
| Butylbenzene, sec- | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Carbon tetrachloride | c, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Chlorobenzene | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Chlorodibromomethane | c, nv | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Chloroethane | c, v | <2.9 (ND) | <2.0 (ND) | <2.9 (ND) | NE | NE | FALSE |
| Chloroform | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Chloromethane | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Dichlorobenzene, 1,2- | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | 2.3 | NE | FALSE |
| Dichlorobenzene, 1,3- | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Dichlorobenzene, 1,4- | c, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | 3.1 | NE | FALSE |
| Dichloroethane, 1,1- | c, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Dichloroethene, 1,1- | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Dichloroethene, cis-1,2- | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Dichloroethene, trans-1,2- | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Dichloroethylether | c, v | <2.9 (ND) | <2.0 (ND) | <2.9 (ND) | NE | NE | FALSE |
| Dichloromethane (methylene chloride) | c, v | 5.38 | 4.7 | 5.4 | NE | NE | FALSE |
| EDB (1,2-dibromoethane) | c, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| EDC (1,2-dichloroethane) | c, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Ethylbenzene | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Isopropylbenzene, p- | | 2.34 | 4.3 | 4.3 | NE | NE | FALSE |
| MTBE (methyl t-butyl ether) | c, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Naphthalene | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Propylbenzene, iso- (Cumene) | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Propylbenzene, n- | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Styrene | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Tetrachloroethene (PCE) | c, v | <0.15 (ND) | <0.10 (ND) | <0.1 (ND) | NE | NE | FALSE |
| Toluene | nc, v | 1.52 | 19.6 | 19.6 | NE | NE | FALSE |
| Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113) | nc, v | — | — | — | — | — | — |
| Trichloroethane, 1,1,1- | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Trichloroethane, 1,1,2- | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Trichloroethene | c, v | <0.18 (ND) | <0.12 (ND) | <0.2 (ND) | NE | NE | FALSE |
| Trichlorofluoromethane (Freon 11) | nc, v | <2.9 (ND) | <2.0 (ND) | <2.9 (ND) | NE | NE | FALSE |
| Trimethylbenzene, 1,2,4- | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Trimethylbenzene, 1,3,5- | nc, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Vinyl chloride | c, v | <0.29 (ND) | <0.20 (ND) | <0.3 (ND) | NE | NE | FALSE |
| Xylenes | nc, v | <0.88 (ND) | <0.59 (ND) | <0.9 (ND) | NE | NE | FALSE |
| Polychlorinated Biphenyls (PCBs) (Normalized on a Total Organic Carbon Basis) | | | | | | | |
| Aroclor 1016 | c, nv | <0.58 (ND) | <0.39 (ND) | <0.58 (ND) | | NE | |
| Aroclor 1221 | c, nv | <0.58 (ND) | <0.39 (ND) | <0.58 (ND) | | NE | |
| Aroclor 1232 | c, nv | <0.58 (ND) | <0.39 (ND) | <0.58 (ND) | | NE | |
| Aroclor 1242 | c, nv | <0.58 (ND) | <0.39 (ND) | <0.58 (ND) | 12 | NE | N |
| Aroclor 1248 | c, nv | <0.58 (ND) | <0.39 (ND) | <0.58 (ND) | | NE | |
| Aroclor 1254 | c, nv | <0.58 (ND) | <0.39 (ND) | <0.58 (ND) | | NE | |
| Aroclor 1260 | c, nv | <0.58 (ND) | <0.39 (ND) | <0.58 (ND) | | NE | |
| Non-Volatile Organic Constituents (SVOCs) (Normalized on a Total Organic Carbon Basis) | | | | | | | |
| Acrylonitrile | c, v | — | — | — | — | — | — |

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Table 7. Summary of Analytical Data, Sediment (Normalized to Total Organic Carbon)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Benzidine | c, nv | — | — | — | — | — | — |
| **Benzoic acid** | nc, nv | **105** | **71** | **105** | **0.65** | NE | TRUE |
| Benzyl butyl phthalate | nc, nv | <1.8 (ND) | <1.2 (ND) | <1.8 (ND) | 4.9 | NE | FALSE |
| Bis(2-ethylhexyl)phthalate | c, nv | 19.9 | <11.7647059 (ND) | 19.9 | 47 | NE | FALSE |
| Cyanide (hydrogen cyanide) * | nc, nv | — | — | — | — | — | — |
| Dibenzofuran | nc, nv | <1.8 (ND) | <1.2 (ND) | <1.8 (ND) | 15 | NE | FALSE |
| Dichlorobenzidine, 3,3- | c, nv | — | — | <0 (ND) | NE | NE | FALSE |
| Diethyl phthalate | nc, nv | <1.8 (ND) | <1.2 (ND) | <1.8 (ND) | 61 | NE | FALSE |
| Dimethyl phthalate | nc, nv | <1.8 (ND) | <1.2 (ND) | <1.8 (ND) | 53 | NE | FALSE |
| Dinitrotoluene, 2,6- | nc, nv | <1.8 (ND) | <1.2 (ND) | <1.8 (ND) | NE | NE | FALSE |
| Di-n-propylnitrosamine | c, nv | — | — | <0 (ND) | NE | NE | FALSE |
| Di-n-butyl phthalate | nc, nv | 3.16 | <1.2 (ND) | 3.16 | 220 | NE | FALSE |
| Di-n-octyl phthalate | nc, nv | <1.8 (ND) | <1.2 (ND) | <1.8 (ND) | 58 | NE | FALSE |
| Dioxane, 1,4- | c, nv | — | — | — | — | — | — |
| Diphenylnitrosamine | c, nv | — | — | — | — | — | — |
| Formaldehyde | nc, nv | — | — | — | — | — | — |
| Hexachloroethane | c, nv | <1.8 (ND) | <1.2 (ND) | <1.8 (ND) | NE | NE | FALSE |
| **4-Methylphenol** | nc, nv | **351** | **392** | **392** | **0.67** | NE | TRUE |
| Pentachlorophenol | c, nv | <17.5 (ND) | <11.8 (ND) | <17.5 (ND) | 0.36 | NE | (TRUE) |
| **Phenol** | c, nv | **76** | **43** | **76** | **0.42** | NE | TRUE |
| Polychlorinated biphenyls (PCBs) | c, nv | — | — | — | — | — | — |
| TCDD, 2,3,7,8- (Dioxin) | c, nv | — | — | — | — | — | — |
| Trichlorophenol, 2,4,6- | c, nv | <17.5 (ND) | <11.8 (ND) | <17.5 (ND) | NE | NE | FALSE |
| Pesticides (Normalized on a Total Organic Carbon Basis) | | | | | | | |
| Aldrin | c, nv | <2.3 (ND) | <1.6 (ND) | <2.3 (ND) | NE | NE | FALSE |
| Chlordane | c, nv | <11.7 (ND) | <7.8 (ND) | <11.7 (ND) | NE | NE | FALSE |
| DDD (4,4'-Dichlorodiphenyltrichloroethene) | c, nv | <2.3 (ND) | <1.6 (ND) | <2.3 (ND) | NE | NE | FALSE |
| DDE (4,4'-Dichlorodiphenyldichloroethene) | c, nv | <2.3 (ND) | <1.6 (ND) | <2.3 (ND) | NE | NE | FALSE |
| DDT (Dichloro diphenyl trichloroethane) | c, nv | <2.3 (ND) | <1.6 (ND) | <2.3 (ND) | NE | NE | FALSE |
| Dichlorophenoxyacetic acid, 2,4- (2,4-D) | nc, nv | — | — | — | NE | NE | FALSE |
| Dieldrin | c, nv | <2.3 (ND) | <1.6 (ND) | <2.3 (ND) | NE | NE | FALSE |
| Endosulfan, (alpha-beta) | nc, nv | <2.3 (ND) | <1.6 (ND) | <2.3 (ND) | NE | NE | FALSE |
| Endrin | nc, nv | <2.3 (ND) | <1.6 (ND) | <2.3 (ND) | NE | NE | FALSE |
| Heptachlor | c, nv | <2.3 (ND) | <1.6 (ND) | <2.3 (ND) | NE | NE | FALSE |
| Heptachlor Epoxide | c, nv | <2.3 (ND) | <1.6 (ND) | <2.3 (ND) | NE | NE | FALSE |
| Hexachlorobenzene | c, nv | <2.3 (ND) | <1.6 (ND) | <2.3 (ND) | 0.38 | NE | (TRUE) |
| Hexachlorocyclohexane, alpha- (alpha-HCH) | c, nv | <2.3 (ND) | <1.6 (ND) | <2.3 (ND) | NE | NE | FALSE |
| Hexachlorocyclohexane, gamma- (Lindane) | c, nv | <2.3 (ND) | <1.6 (ND) | <2.3 (ND) | NE | NE | FALSE |
| MCPA ((4-chloro-2-methylphenoxy)acetic acid) | nc, nv | — | — | — | — | — | — |
| Toxaphene | c, nv | — | — | — | — | — | — |
| Metals | | | | | | | |
| Arsenic | c, nv | <1 (ND) | <1 (ND) | <1 (ND) | 57 | 7 | FALSE |
| Antimony | nc, nv | 14.1 | <1 (ND) | 14.1 | NE | NE | FALSE |
| Barium | nc, nv | 51.1 | 33.7 | 51.1 | NE | NE | FALSE |
| Beryllium | nc, nv | <1 (ND) | <1 (ND) | <1 (ND) | NE | 2 | FALSE |
| Cadmium | c, nv | <1 (ND) | <1 (ND) | <1 (ND) | 5.1 | 1 | FALSE |
| Chromium (III) | nc, nv | 12.7 | 6.23 | 12.7 | 260 | NE | FALSE |
| Copper | nc, nv | **316** | 12.1 | **316** | 390 | 36 | -TRUE- |
| Lead | NA, nv | **76** | 4.92 | **76** | 450 | 17 | -TRUE- |
| Mercury | nc, nv | <0.2 (ND) | <0.2 (ND) | <0.2 (ND) | 0.41 | 0.07 | (TRUE) |
| Nickel | nc, nv | 9.98 | 2.70 | 9.98 | NE | 38 | FALSE |
| Selenium | nc, nv | <1 (ND) | <1 (ND) | <1 (ND) | NE | NE | FALSE |
| Silver | nc, nv | <1 (ND) | <1 (ND) | <1 (ND) | 6.1 | NE | FALSE |
| Thallium | nc, nv | <1 (ND) | <1 (ND) | <1 (ND) | NE | NE | FALSE |
| Zinc | nc, nv | 40.4 | 23.2 | 40.4 | 410 | 86 | FALSE |
| Total Petroleum Hydrocarbons | | | | | | | |
| GRO | nc, v | 18 | 80 | 80 | NE | NE | FALSE |
| DRO | nc, nv | 3400 x | 3600 x | 3600 | NE | NE | FALSE |
| RRO | nc, nv | 7200 y | 8800 y | 8800 | NE | NE | FALSE |
| Parameters | | | | | | | |
| Total Organic Carbon | | 17.1% | 25.5% | 25.5% | — | — | — |
| Ammonia (per Kg-N) | | 1.31 | 14.2 | 14 | — | — | — |

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Notes:
NE = not established
— = not analyzed or not applicable
<# ND = not detected at or above the method reporting limit shown.
mg/Kg = milligram per kilogram
c = carcinogenic
nc = noncarcinogenic
v = volatile
nv = nonvolatile
GRO = gasoline-range organics
DRO = diesel-range organics
RRO = residual-range organics
**Bolded** concentrations exceed Ecology's Sediment Quality Standards (indicated with a TRUE in the last column)
(TRUE) indicates analyte not detected, but detection limit is above screening concentration.
-TRUE- indicates analyte does not exceed the Marine Sediment Screening Level; however, was detected above its soil background concentration.
[1] Background concentrations from ECOLOGY Publication #94-115
[2] Marine Sediment Quality Standards used as primary screening.
x = the pattern of peaks is not indicative of diesel
y = the pattern of peaks is not indicative of motor oil
n = MTCA Method A Cleanup level for all naphthalenes (total of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene)

Table 3. Summary of Analytical Data for Surface Water

| Location ID | | SW01 | OF02 | Maximum Ground Water Concetnration | MTCA Method A Cleanup Levels for Groundwater | EPA Region VI SSLs Drinking Water (if no MTCA Cleanup Level) | Background Concentrations (metals)[1] | COPC?[2] |
|---|---|---|---|---|---|---|---|---|
| Sample ID | | SW01-080710 | OF02-080414 | | | | | |
| Sample Type | | Surface Water | Storm Water | | | | | |
| Date Sampled | | 7/10/2008 | 4/14/2008 | | | | | |
| Location | | Surface water from the northwestern portion of the log pond | Outfall OF02, south of Sawmill | | | | | |
| Constituent of Interest | Note | µg/L (ppb) | | µg/L (ppb) | µg/L (ppb) | µg/L (ppb) | µg/L (ppb) | Y/N |
| Polynuclear Aromatic Hydrocarbons | | | | | | | | |
| Acenaphthene | nc, v | <10 ND | --- | <10 ND | NE | 370 | NE | N |
| Anthracene | nc, v | <10 ND | --- | <10 ND | NE | 1800 | NE | N |
| Benz[a]anthracene | c, nv | <10 ND | --- | <10 ND | 0.1 (**) | --- | NE | (Y) |
| Benzo[a]pyrene | c, nv | <10 ND | --- | <10 ND | 0.1 (**) | --- | NE | (Y) |
| Benzo[b]fluoranthene | c, nv | <10 ND | --- | <10 ND | 0.1 (**) | --- | NE | (Y) |
| Benzo[k]fluoranthene | c, nv | <10 ND | --- | <10 ND | 0.1 (**) | --- | NE | (Y) |
| Chrysene | c, nv | <10 ND | --- | <10 ND | 0.1 (**) | --- | NE | (Y) |
| Dibenz[a,h]anthracene | c, nv | <10 ND | --- | <10 ND | 0.1 (**) | --- | NE | (Y) |
| Fluoranthene | nc, nv | <10 ND | --- | <10 ND | NE | 1500 | NE | N |
| Fluorene | nc, v | <10 ND | --- | <10 ND | NE | 240 | NE | N |
| Indeno[1,2,3-cd]pyrene | c, nv | <10 ND | --- | <10 ND | 0.1 (**) | --- | NE | (Y) |
| Naphthalene | nc, v | 540 | <10 ND | 540 | 160 n | --- | NE | Y |
| 1-Methylnaphthalene | nc, v | <100 ND | --- | <100 ND | | --- | | N |
| 2-Methylnaphthalene | nc, v | <10 ND | --- | <10 ND | | --- | | N |
| Pyrene | nc, nv | <10 ND | --- | <10 ND | NE | 180 | NE | N |
| Volatile Organic Constituents (VOCs) | | | | | | | | |
| Acetone | c, v | 450 | <100 ND | <450 ND | NE | 5500 | NE | N |
| Benzene | c, v | <5 ND | <10 ND | <10 ND | 5 | --- | NE | (Y) |
| Bromodichloromethane | c, v | <5 ND | <10 ND | <10 ND | NE | 0.18 | NE | (Y) |
| Bromoform | c, nv | <5 ND | <10 ND | <10 ND | NE | 8.5 | NE | (Y) |
| Bromomethane | nc, v | <5 ND | <10 ND | <10 ND | NE | 8.7 | NE | (Y) |
| 2-Butanone (MEK) | nc, v | 60 | <100 ND | 60 | NE | 7100 | NE | N |
| Butylbenzene, n- | nc, v | <50 ND | --- | <50 ND | NE | 61 | NE | N |
| Butylbenzene, sec- | nc, v | <5 ND | <10 ND | <10 ND | NE | 240 | NE | N |
| Carbon tetrachloride | c, v | <5 ND | <10 ND | <10 ND | NE | 0.17 | NE | (Y) |
| Chlorobenzene | nc, v | <5 ND | <10 ND | <10 ND | NE | 91 | NE | N |
| Chlorodibromomethane | c, nv | <5 ND | <10 ND | <10 ND | NE | 0.13 | NE | (Y) |
| Chloroethane | c, v | <5 ND | <10 ND | <10 ND | NE | NE | NE | N |
| Chloroform | nc, v | <5 ND | <10 ND | <10 ND | NE | 0.17 | NE | (Y) |
| Chloromethane | nc, v | <5 ND | <10 ND | <10 ND | NE | 2.1 | NE | (Y) |
| Dichlorobenzene, 1,2- | nc, v | <5 ND | <10 ND | <10 ND | NE | 49 | NE | N |
| Dichlorobenzene, 1,3- | nc, v | <5 ND | <10 ND | <10 ND | NE | 14 | NE | N |
| Dichlorobenzene, 1,4- | c, v | <5 ND | <10 ND | <10 ND | NE | 0.47 | NE | (Y) |
| Dichloroethane, 1,1- | c, v | <5 ND | <10 ND | <10 ND | NE | 1200 | NE | N |
| Dichloroethene, 1,1- | nc, v | <5 ND | <10 ND | <10 ND | NE | 340 | NE | N |
| Dichloroethene, cis-1,2- | nc, v | <5 ND | <10 ND | <10 ND | NE | 61 | NE | N |
| Dichloroethene, trans-1,2- | nc, v | <5 ND | <10 ND | <10 ND | NE | 110 | NE | N |
| Dichloroethylether | c, v | <50 ND | --- | <50 ND | NE | NE | NE | N |
| Dichloromethane (methylene chloride) | c, v | <25 ND | <10 ND | <25 ND | 5 | --- | NE | (Y) |
| EDB (1,2-dibromoethane) | c, v | <5 ND | <10 ND | <10 ND | 0.01 | --- | NE | (Y) |
| EDC (1,2-dichloroethane) | c, v | <5 ND | <10 ND | <10 ND | 5 | --- | NE | (Y) |
| Ethylbenzene | nc, v | <5 ND | <10 ND | <10 ND | 700 | --- | NE | N |
| Isopropylbenzene, p- | | 73 | <10 ND | 73 | NE | NE | NE | N |
| MTBE (methyl t-butyl ether) | c, v | <5 ND | --- | <5 ND | 20 | --- | NE | N |
| **Naphthalene** | nc, v | **540** | <10 ND | **540** | **160 n** | --- | NE | Y |
| Propylbenzene, iso- (Cumene) | nc, v | <5 ND | <10 ND | <10 ND | NE | NE | NE | N |
| Propylbenzene, n- | nc, v | <5 ND | <10 ND | <10 ND | NE | 61 | NE | N |
| Styrene | nc, v | <5 ND | --- | <5 ND | NE | 0.1 | NE | (Y) |
| Tetrachloroethene (PCE) | c, v | <5 ND | <10 ND | <10 ND | 5 | --- | NE | (Y) |
| Toluene | nc, v | 250 | <10 ND | 250 | 1000 | --- | NE | N |
| Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113) | nc, v | <5 ND | --- | <5 ND | NE | NE | NE | N |
| Trichloroethane, 1,1,1- | nc, v | <5 ND | <10 ND | <10 ND | 200 | --- | NE | N |
| Trichloroethane, 1,1,2- | nc, v | <5 ND | <10 ND | <10 ND | NE | 0.2 | NE | (Y) |
| Trichloroethene | c, v | <5 ND | <10 ND | <10 ND | 5 | --- | NE | (Y) |
| Trichlorofluoromethane (Freon 11) | nc, v | <5 ND | <10 ND | <10 ND | NE | 1300 | NE | N |
| Trimethylbenzene, 1,2,4- | nc, v | <5 ND | <10 ND | <10 ND | NE | 12 | NE | N |
| Trimethylbenzene, 1,3,5- | nc, v | <5 ND | <10 ND | <10 ND | NE | 12 | NE | N |
| Vinyl chloride | c, v | <1 ND | <2 ND | <2 ND | 0.2 | --- | NE | (Y) |
| Xylenes | nc, v | <15 ND | <20 ND | <20 ND | 1000 | --- | NE | N |
| Polychlorinated Biphenyls (PCBs) | | | | | | | | |
| Aroclor 1016 | c, nv | <0.1 (ND) | --- | <0.1 ND | 0.1 | --- | NE | N |
| Aroclor 1221 | c, nv | <0.1 (ND) | --- | <0.1 ND | 0.1 | --- | NE | N |
| Aroclor 1232 | c, nv | <0.1 (ND) | --- | <0.1 ND | 0.1 | --- | NE | N |
| Aroclor 1242 | c, nv | <0.1 (ND) | --- | <0.1 ND | 0.1 | --- | NE | N |
| Aroclor 1248 | c, nv | <0.1 (ND) | --- | <0.1 ND | 0.1 | --- | NE | N |
| Aroclor 1254 | c, nv | <0.1 (ND) | --- | <0.1 ND | 0.1 | --- | NE | N |
| Aroclor 1260 | c, nv | <0.1 (ND) | --- | <0.1 ND | 0.1 | --- | NE | N |

DRAFT

Table 3. Summary of Analytical Data for Surface Water

| Location ID | | SW01 | OF02 | Maximum Ground Water Concetnration | MTCA Method A Cleanup Levels for Groundwater | EPA Region VI SSLs Drinking Water (if no MTCA Cleanup Level) | Background Concentrations (metals)[1] | COPC?[2] |
|---|---|---|---|---|---|---|---|---|
| Sample ID | | SW01-080710 | OF02-080414 | | | | | |
| Sample Type | | Surface Water | Storm Water | | | | | |
| Date Sampled | | 7/10/2008 | 4/14/2008 | | | | | |
| Location | | Surface water from the northwestern portion of the log pond | Outfall OF02, south of Sawmill | | | | | |
| Constituent of Interest | Note | µg/L (ppb) | | µg/L (ppb) | µg/L (ppb) | µg/L (ppb) | µg/L (ppb) | Y/N |
| Non-Volatile Organic Constituents (SVOCs) | | | | | | | | |
| Benzoic acid | nc, nv | 900 | — | 900 | NE | 150,000 | NE | N |
| Benzyl butyl phthalate | nc, nv | <10 (ND) | --- | <10 ND | NE | 7,300 | NE | N |
| Bis(2-ethylhexyl)phthalate | c, nv | <100 (ND) | --- | <100 ND | NE | 4.8 | NE | (Y) |
| Dibenzofuran | nc, nv | <10 (ND) | --- | <10 ND | NE | 12 | NE | N |
| Diethyl phthalate | nc, nv | <10 (ND) | --- | <10 ND | NE | 29,000 | NE | N |
| Dimethyl phthalate | nc, nv | <10 (ND) | --- | <10 ND | NE | 370,000 | NE | N |
| Dinitrotoluene, 2,6- | nc, nv | <10 (ND) | --- | <10 ND | NE | 37 | NE | N |
| Di-n-butyl phthalate | nc, nv | <10 (ND) | — | <10 ND | NE | NE | NE | N |
| Di-n-octyl phthalate | nc, nv | <10 (ND) | — | <10 ND | NE | NE | NE | N |
| Hexachloroethane | c, nv | <10 (ND) | — | <10 ND | NE | 4.8 | NE | (Y) |
| 4-Methylphenol | nc, nv | **6,300** | --- | **6300** | NE | 180 | NE | Y |
| Pentachlorophenol | c, nv | <100 (ND) | --- | <100 ND | NE | 0.56 | NE | (Y) |
| Phenol | c, nv | 970 | --- | 970 | NE | 11,000 | NE | N |
| Trichlorophenol, 2,4,6- | c, nv | <100 (ND) | --- | <100 ND | NE | 0.008 | NE | (Y) |
| Metals | | | | | | | | |
| Arsenic | c, nv | **9.23** | — | **9.23** | 5 | — | 2 (OR) | Y |
| Antimony | nc, nv | 1.09 | — | 1.09 | NE | 15 | NE | N |
| Barium | nc, nv | 160 | — | 160 | NE | 7300 | NE | N |
| Beryllium | nc, nv | <1 (ND) | --- | <1 (ND) | NE | 73 | NE | N |
| Cadmium | c, nv | <1 (ND) | --- | <1 (ND) | 5 | — | 1 (OR) | N |
| Total Chromium | c,nc, nv | 13.1 | --- | **13.1** | 50 | — | 1 (OR) | (N) |
| Copper | nc, nv | 22.2 | 39.8 | 39.8 | NE | 1400 | NE | N |
| Lead | NA, nv | 5.26 | 17.5 | 17.50 | 15 | — | 13.3 (OR) | Y |
| Mercury | nc, nv | <0.2 [ND] | — | <0.2 (ND) | 2 | — | 0.1 (OR) | (Y) |
| Nickel | nc, nv | 15.2 | — | 15.2 | NE | 730 | NE | N |
| Selenium | nc, nv | <1 (ND) | — | <1 (ND) | NE | 180 | NE | N |
| Silver | nc, nv | <1 (ND) | --- | <1 (ND) | NE | 180 | 1 (OR) | N |
| Thallium | nc, nv | <1 (ND) | --- | <1 (ND) | NE | 2.6 | NE | N |
| Zinc | nc, nv | 163 | 504 | 504 | NE | 11000 | NE | N |
| Total Petroleum Hydrocarbons | | | | | | | | |
| GRO | nc, v | **990** | — | **990** | **800** | --- | NE | Y |
| DRO | nc, nv | **58,000** | **[illegible],000** | **58,000** | **500** | --- | NE | Y |
| RRO | nc, nv | **5,500** | | **5,500** | **500** | --- | NE | Y |

Notes:
— = not analyzed or not applicable.
ND = not detected at or above the method reporting limit shown.
NE = not established.
µg/L = micrograms per Liter
c = carcinogenic
nc = noncarcinogenic
v = volatile
nv = nonvolatile
GRO = gasoline-range organics.
DRO = diesel-range organics.
RRO = residual-range organics.
**Bolded** concentrations exceed MTCA Method A Cleanup Levels or EPA Region XI SSLs (indicated with a Y in the last column)
(Y) indicates analyte not detected, but detection limit is above screening concentration.
(N) indicates analyte does not exceed cleanup screening level; however, does exceed background concentration

[1] (OR) The State of Washington has not calculated background concentrations for metals in water; therefore, the concentrations listed are derived from the State of Oregon background concentrations

[2] MTCA Method A used as primary screening. EPA Region XI SSLs used only if no MTCA Standard available
* All Chromium is here evaluated as total chromium Chromium VI to be conservative
** Cleanup level of carcinogenic PAHs based on cleanup standard for benzo[a]pyrene. Toxic equivalency factors must be used to take into account presence of other carcinogenic PAHs.
n = MTCA Method A Cleanup level for all naphthalenes (total of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene)

DRAFT

# APPENDIX D

## LABORATORY ANALYTICAL RESULTS

# Specialty Analytical

11711 SE Capps Road
Clackamas, OR 97015
(503) 607-1331
Fax (503) 607-1336


September 23, 2011

Christina Johnson
Maul, Foster & Alongi
7223 NE Hazel Dell Avenue
Suite B
Vancouver, WA 98665

TEL: (360) 694-2691
FAX: (360) 906-1958

RE: Port of Camas / 0229.04.01

Order No.: 1109044

Dear Christina Johnson:

Specialty Analytical received 3 samples on 9/7/2011 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Cindy Hillyard
Project Manager

Technical Review

# Specialty Analytical

**Date:** *23-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | MW2 |
| **Lab Order:** | 1109044 | **Collection Date:** | 9/6/2011 10:08:00 AM |
| **Project:** | Port of Camas / 0229.04.01 | | |
| **Lab ID:** | 1109044-01 | **Matrix:** | GROUNDWATER |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 0.0765 | | mg/L | 1 | 9/9/2011 |
| Lube Oil | ND | 0.191 | | mg/L | 1 | 9/9/2011 |
| Surr: o-Terphenyl | 80.7 | 50-150 | | %REC | 1 | 9/9/2011 |
| **NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | ND | 100 | | µg/L | 1 | 9/8/2011 |
| Surr: 4-Bromofluorobenzene | 93.3 | 50-150 | | %REC | 1 | 9/8/2011 |

## Specialty Analytical

**Date:** *23-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | MW3 |
| **Lab Order:** | 1109044 | **Collection Date:** | 9/6/2011 2:20:00 PM |
| **Project:** | Port of Camas / 0229.04.01 | | |
| **Lab ID:** | 1109044-02 | **Matrix:** | GROUNDWATER |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 0.0791 | | mg/L | 1 | 9/9/2011 |
| Lube Oil | ND | 0.198 | | mg/L | 1 | 9/9/2011 |
| Surr: o-Terphenyl | 84.0 | 50-150 | | %REC | 1 | 9/9/2011 |
| **NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | ND | 100 | | µg/L | 1 | 9/8/2011 |
| Surr: 4-Bromofluorobenzene | 95.8 | 50-150 | | %REC | 1 | 9/8/2011 |

# Specialty Analytical

**Date:** *23-Sep-11*

**CLIENT:** Maul, Foster & Alongi
**Lab Order:** 1109044
**Project:** Port of Camas / 0229.04.01
**Lab ID:** 1109044-03

**Client Sample ID:** MW4
**Collection Date:** 9/6/2011 6:20:00 PM
**Matrix:** GROUNDWATER

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 0.128 | 0.0761 | A1 | mg/L | 1 | 9/9/2011 |
| Lube Oil | ND | 0.190 | | mg/L | 1 | 9/9/2011 |
| Surr: o-Terphenyl | 81.1 | 50-150 | | %REC | 1 | 9/9/2011 |
| **NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | ND | 100 | | µg/L | 1 | 9/8/2011 |
| Surr: 4-Bromofluorobenzene | 97.1 | 50-150 | | %REC | 1 | 9/8/2011 |
| **TOTAL METALS BY ICP/MS** | | **SW6020** | | | | Analyst: **zau** |
| Arsenic | 0.171 | 0.100 | | µg/L | 1 | 9/22/2011 6:23:00 PM |
| Cadmium | ND | 0.100 | | µg/L | 1 | 9/22/2011 6:23:00 PM |
| Lead | ND | 0.100 | | µg/L | 1 | 9/22/2011 6:23:00 PM |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **jrp** |
| 1-Methylnaphthalene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| 2-Methylnaphthalene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Acenaphthene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Acenaphthylene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Anthracene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Benz(a)anthracene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Benzo(a)pyrene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Benzo(b)fluoranthene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Benzo(g,h,i)perylene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Benzo(k)fluoranthene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Chrysene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Dibenz(a,h)anthracene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Fluoranthene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Fluorene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Indeno(1,2,3-cd)pyrene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Naphthalene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Phenanthrene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Pyrene | ND | 0.0480 | | µg/L | 1 | 9/9/2011 5:34:00 PM |
| Surr: 2-Fluorobiphenyl | 46.6 | 18.6-106 | | %REC | 1 | 9/9/2011 5:34:00 PM |
| Surr: Nitrobenzene-d5 | 50.2 | 17-130 | | %REC | 1 | 9/9/2011 5:34:00 PM |
| Surr: p-Terphenyl-d14 | 58.7 | 39.6-131 | | %REC | 1 | 9/9/2011 5:34:00 PM |
| **VOLATILE ORGANICS BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| Benzene | ND | 0.300 | | µg/L | 1 | 9/13/2011 11:30:00 PM |
| Ethylbenzene | ND | 1.00 | | µg/L | 1 | 9/13/2011 11:30:00 PM |
| m,p-Xylene | ND | 2.00 | | µg/L | 1 | 9/13/2011 11:30:00 PM |
| o-Xylene | ND | 1.00 | | µg/L | 1 | 9/13/2011 11:30:00 PM |
| Toluene | ND | 1.00 | | µg/L | 1 | 9/13/2011 11:30:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 98.4 | 72.2-129 | | %REC | 1 | 9/13/2011 11:30:00 PM |

## Specialty Analytical

**Date:** *23-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | MW4 |
| **Lab Order:** | 1109044 | **Collection Date:** | 9/6/2011 6:20:00 PM |
| **Project:** | Port of Camas / 0229.04.01 | | |
| **Lab ID:** | 1109044-03 | **Matrix:** | GROUNDWATER |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| Surr: 4-Bromofluorobenzene | 90.4 | 73.5-125 | | %REC | 1 | 9/13/2011 11:30:00 PM |
| Surr: Dibromofluoromethane | 96.9 | 58.8-148 | | %REC | 1 | 9/13/2011 11:30:00 PM |
| Surr: Toluene-d8 | 97.1 | 79.8-137 | | %REC | 1 | 9/13/2011 11:30:00 PM |

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109044
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6020_W**

| Sample ID: **MBLK-29493** | SampType: **MBLK** | TestCode: **6020_W** | Units: **µg/L** | Prep Date: **9/22/2011** | Run ID: **ICPMS_110922A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29493** | TestNo: **SW6020** | | Analysis Date: **9/22/2011** | SeqNo: **778762** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 0.100 | | | | | | | | | |
| Cadmium | ND | 0.100 | | | | | | | | | |
| Lead | 0.03077 | 0.100 | | | | | | | | | J |

| Sample ID: **LCS-29493** | SampType: **LCS** | TestCode: **6020_W** | Units: **µg/L** | Prep Date: **9/22/2011** | Run ID: **ICPMS_110922A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29493** | TestNo: **SW6020** | | Analysis Date: **9/22/2011** | SeqNo: **778763** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 49.62 | 0.100 | 50 | 0 | 99.2 | 80 | 120 | 0 | 0 | | |
| Cadmium | 51.6 | 0.100 | 50 | 0 | 103 | 80 | 120 | 0 | 0 | | |
| Lead | 49.99 | 0.100 | 50 | 0 | 100 | 80 | 120 | 0 | 0 | | |

| Sample ID: **1109128-14BMS** | SampType: **MS** | TestCode: **6020_W** | Units: **µg/L** | Prep Date: **9/22/2011** | Run ID: **ICPMS_110922A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29493** | TestNo: **SW6020** | | Analysis Date: **9/22/2011** | SeqNo: **778766** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 75.73 | 0.100 | 50 | 25.24 | 101 | 70 | 130 | 0 | 0 | | |
| Cadmium | 51.5 | 0.100 | 50 | 0.03492 | 103 | 70 | 130 | 0 | 0 | | |
| Lead | 50.63 | 0.100 | 50 | 0.05632 | 101 | 70 | 130 | 0 | 0 | | |

| Sample ID: **1109128-14BMSD** | SampType: **MSD** | TestCode: **6020_W** | Units: **µg/L** | Prep Date: **9/22/2011** | Run ID: **ICPMS_110922A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29493** | TestNo: **SW6020** | | Analysis Date: **9/22/2011** | SeqNo: **778767** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 74.86 | 0.100 | 50 | 25.24 | 99.2 | 70 | 130 | 75.73 | 1.16 | 20 | |
| Cadmium | 50.71 | 0.100 | 50 | 0.03492 | 101 | 70 | 130 | 51.5 | 1.55 | 20 | |
| Lead | 49.87 | 0.100 | 50 | 0.05632 | 99.6 | 70 | 130 | 50.63 | 1.51 | 20 | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109044
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6020_W**

Sample ID: **1109128-14BDUP** SampType: **DUP** TestCode: **6020_W** Units: **µg/L** Prep Date: **9/22/2011** Run ID: **ICPMS_110922A**
Client ID: **ZZZZZ** Batch ID: **29493** TestNo: **SW6020** Analysis Date: **9/22/2011** SeqNo: **778765**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 24.9 | 0.100 | 0 | 0 | 0 | 0 | 0 | 25.24 | 1.36 | 20 | |
| Cadmium | 0.02225 | 0.100 | 0 | 0 | 0 | 0 | 0 | 0.03492 | 0 | 20 | J |
| Lead | 0.04659 | 0.100 | 0 | 0 | 0 | 0 | 0 | 0.05632 | 0 | 20 | J |

Sample ID: **CCV** SampType: **CCV** TestCode: **6020_W** Units: **µg/L** Prep Date: Run ID: **ICPMS_110922A**
Client ID: **ZZZZZ** Batch ID: **29493** TestNo: **SW6020** Analysis Date: **9/22/2011** SeqNo: **778768**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 51.32 | 0.100 | 50 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Cadmium | 50.03 | 0.100 | 50 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Lead | 48.94 | 0.100 | 50 | 0 | 97.9 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6020_W** Units: **µg/L** Prep Date: Run ID: **ICPMS_110922A**
Client ID: **ZZZZZ** Batch ID: **29493** TestNo: **SW6020** Analysis Date: **9/22/2011** SeqNo: **778779**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 51.75 | 0.100 | 50 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Cadmium | 50.1 | 0.100 | 50 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Lead | 48.99 | 0.100 | 50 | 0 | 98 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6020_W** Units: **µg/L** Prep Date: Run ID: **ICPMS_110922A**
Client ID: **ZZZZZ** Batch ID: **29493** TestNo: **SW6020** Analysis Date: **9/22/2011** SeqNo: **778790**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 51.76 | 0.100 | 50 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Cadmium | 50.3 | 0.100 | 50 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Lead | 49.37 | 0.100 | 50 | 0 | 98.7 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109044
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6020_W**

Sample ID: **ICV** SampType: **ICV** TestCode: **6020_W** Units: **µg/L** Prep Date: Run ID: **ICPMS_110922A**
Client ID: **ZZZZZ** Batch ID: **29493** TestNo: **SW6020** Analysis Date: **9/22/2011** SeqNo: **778761**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 52.22 | 0.100 | 50 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Cadmium | 50.08 | 0.100 | 50 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Lead | 49.34 | 0.100 | 50 | 0 | 98.7 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109044
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_W**

| Sample ID: **MBLK-29421** | SampType: **MBLK** | TestCode: **8260_W** | Units: **µg/L** | Prep Date: | Run ID: **5973L_110913B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29421** | TestNo: **SW8260B** | | Analysis Date: **9/13/2011** | SeqNo: **776540** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | 0.300 | | | | | | | | | |
| Ethylbenzene | ND | 1.00 | | | | | | | | | |
| m,p-Xylene | ND | 2.00 | | | | | | | | | |
| o-Xylene | ND | 1.00 | | | | | | | | | |
| Toluene | ND | 1.00 | | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 98.16 | 0 | 100 | 0 | 98.2 | 72.2 | 129 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 88.66 | 0 | 100 | 0 | 88.7 | 73.5 | 125 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 95.53 | 0 | 100 | 0 | 95.5 | 58.8 | 148 | 0 | 0 | | |
| Surr: Toluene-d8 | 97.2 | 0 | 100 | 0 | 97.2 | 79.8 | 137 | 0 | 0 | | |

| Sample ID: **LCS-29421** | SampType: **LCS** | TestCode: **8260_W** | Units: **µg/L** | Prep Date: **9/13/2011** | Run ID: **5973L_110913B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29421** | TestNo: **SW8260B** | | Analysis Date: **9/13/2011** | SeqNo: **776555** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 38.47 | 0.300 | 40 | 0 | 96.2 | 77.9 | 125 | 0 | 0 | | |
| Toluene | 39.67 | 1.00 | 40 | 0 | 99.2 | 74.6 | 119 | 0 | 0 | | |

| Sample ID: **1109023-08CMS** | SampType: **MS** | TestCode: **8260_W** | Units: **µg/L** | Prep Date: **9/13/2011** | Run ID: **5973L_110913B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29421** | TestNo: **SW8260B** | | Analysis Date: **9/14/2011** | SeqNo: **776552** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 23.05 | 0.300 | 40 | 0.47 | 56.4 | 71.5 | 118 | 0 | 0 | | S,MI |
| Toluene | 29.28 | 1.00 | 40 | 5.45 | 59.6 | 79.6 | 121 | 0 | 0 | | S,MI |

| Sample ID: **1109023-08CMSD** | SampType: **MSD** | TestCode: **8260_W** | Units: **µg/L** | Prep Date: **9/13/2011** | Run ID: **5973L_110913B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29421** | TestNo: **SW8260B** | | Analysis Date: **9/14/2011** | SeqNo: **776553** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 34.18 | 0.300 | 40 | 0.47 | 84.3 | 71.5 | 118 | 23.05 | 38.9 | 20 | R,MI |
| Toluene | 40.19 | 1.00 | 40 | 5.45 | 86.9 | 79.6 | 121 | 29.28 | 31.4 | 20 | R,MI |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109044
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_W**

Sample ID: **CCV-29421** SampType: **CCV** TestCode: **8260_W** Units: **µg/L** Prep Date: Run ID: **5973L_110913B**
Client ID: **ZZZZZ** Batch ID: **29421** TestNo: **SW8260B** Analysis Date: **9/13/2011** SeqNo: **776538**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | 38.79 | 1.00 | 40 | 0 | 97 | 80 | 120 | 0 | 0 | | |
| Toluene | 39.26 | 1.00 | 40 | 0 | 98.2 | 80 | 120 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109044
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDXLL_W**

Sample ID: **MB-29372** SampType: **MBLK** TestCode: **NWTPHDXLL** Units: **mg/L** Prep Date: **9/8/2011** Run ID: **GC-M_110909B**
Client ID: **ZZZZZ** Batch ID: **29372** TestNo: **NWTPH-Dx** Analysis Date: **9/9/2011** SeqNo: **775989**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 0.0800 | | | | | | | | | |
| Lube Oil | ND | 0.200 | | | | | | | | | |
| Surr: o-Terphenyl | 0.1723 | 0 | 0.2 | 0 | 86.2 | 50 | 150 | 0 | 0 | | |

Sample ID: **LCS-29372** SampType: **LCS** TestCode: **NWTPHDXLL** Units: **mg/L** Prep Date: **9/8/2011** Run ID: **GC-M_110909B**
Client ID: **ZZZZZ** Batch ID: **29372** TestNo: **NWTPH-Dx** Analysis Date: **9/9/2011** SeqNo: **775990**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 0.9174 | 0.0800 | 1 | 0 | 91.7 | 60.7 | 121 | 0 | 0 | | |
| Lube Oil | 0.916 | 0.200 | 1 | 0 | 91.6 | 64 | 126 | 0 | 0 | | |

Sample ID: **LCSD-29372** SampType: **LCSD** TestCode: **NWTPHDXLL** Units: **mg/L** Prep Date: **9/8/2011** Run ID: **GC-M_110909B**
Client ID: **ZZZZZ** Batch ID: **29372** TestNo: **NWTPH-Dx** Analysis Date: **9/9/2011** SeqNo: **775991**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1.01 | 0.0800 | 1 | 0 | 101 | 60.7 | 121 | 0.9174 | 9.60 | 20 | |
| Lube Oil | 1.085 | 0.200 | 1 | 0 | 109 | 64 | 126 | 0.916 | 16.9 | 20 | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDXLL** Units: **mg/L** Prep Date: Run ID: **GC-M_110909B**
Client ID: **ZZZZZ** Batch ID: **29372** TestNo: **NWTPH-Dx** Analysis Date: **9/9/2011** SeqNo: **775988**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 6.45 | 0.0800 | 6.057 | 0 | 106 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 3.501 | 0.200 | 3.15 | 0 | 111 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDXLL** Units: **mg/L** Prep Date: Run ID: **GC-M_110909B**
Client ID: **ZZZZZ** Batch ID: **29372** TestNo: **NWTPH-Dx** Analysis Date: **9/9/2011** SeqNo: **776002**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 8.037 | 0.0800 | 8.076 | 0 | 99.5 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109044
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDXLL_W**

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDXLL** Units: **mg/L** Prep Date: Run ID: **GC-M_110909B**
Client ID: **ZZZZZ** Batch ID: **29372** TestNo: **NWTPH-Dx** Analysis Date: **9/9/2011** SeqNo: **776002**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lube Oil | 4.294 | 0.200 | 4.2 | 0 | 102 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109044
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHGX_W**

| Sample ID: **MB-29363** | SampType: **MBLK** | TestCode: **NWTPHGX_** | Units: **µg/L** | Prep Date: **9/7/2011** | Run ID: **GC-I_110908B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29363** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/8/2011** | SeqNo: **775343** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 20.93 | 100 | | | | | | | | | J |
| Surr: 4-Bromofluorobenzene | 92.09 | 0 | 100 | 0 | 92.1 | 50 | 150 | 0 | 0 | | |

| Sample ID: **LCS-29363** | SampType: **LCS** | TestCode: **NWTPHGX_** | Units: **µg/L** | Prep Date: **9/7/2011** | Run ID: **GC-I_110908B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29363** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/8/2011** | SeqNo: **775342** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 2534 | 100 | 2500 | 0 | 101 | 74.4 | 128 | 0 | 0 | | |

| Sample ID: **1109023-09CDUP** | SampType: **DUP** | TestCode: **NWTPHGX_** | Units: **µg/L** | Prep Date: **9/7/2011** | Run ID: **GC-I_110908B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29363** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/8/2011** | SeqNo: **775347** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | ND | 100 | 0 | 0 | 0 | 0 | 0 | 42.18 | 0 | 20 | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHGX_** | Units: **µg/L** | Prep Date: | Run ID: **GC-I_110908B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29363** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/8/2011** | SeqNo: **775351** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 2622 | 100 | 3000 | 0 | 87.4 | 80 | 120 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109044
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_W**

| Sample ID: **MB-29373** | SampType: **MBLK** | TestCode: **PAHLL_W** | Units: **µg/L** | Prep Date: **9/8/2011** | Run ID: **5975Q_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29373** | TestNo: **8270SIM** | | Analysis Date: **9/9/2011** | SeqNo: **775801** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.01 | 0.0500 | | | | | | | | | J |
| 2-Methylnaphthalene | 0.01 | 0.0500 | | | | | | | | | J |
| Acenaphthene | ND | 0.0500 | | | | | | | | | |
| Acenaphthylene | ND | 0.0500 | | | | | | | | | |
| Anthracene | 0.01 | 0.0500 | | | | | | | | | J |
| Benz(a)anthracene | 0.01 | 0.0500 | | | | | | | | | J |
| Benzo(a)pyrene | 0.01 | 0.0500 | | | | | | | | | J |
| Benzo(b)fluoranthene | 0.01 | 0.0500 | | | | | | | | | J |
| Benzo(g,h,i)perylene | ND | 0.0500 | | | | | | | | | |
| Benzo(k)fluoranthene | 0.01 | 0.0500 | | | | | | | | | J |
| Chrysene | 0.01 | 0.0500 | | | | | | | | | J |
| Dibenz(a,h)anthracene | ND | 0.0500 | | | | | | | | | |
| Fluoranthene | 0.01 | 0.0500 | | | | | | | | | J |
| Fluorene | ND | 0.0500 | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 0.0500 | | | | | | | | | |
| Naphthalene | 0.08 | 0.0500 | | | | | | | | | |
| Phenanthrene | 0.01 | 0.0500 | | | | | | | | | J |
| Pyrene | 0.01 | 0.0500 | | | | | | | | | J |
| Surr: 2-Fluorobiphenyl | 44.77 | 1.00 | 100 | 0 | 44.8 | 18.6 | 106 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 44.67 | 1.00 | 100 | 0 | 44.7 | 17 | 130 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 49.35 | 1.00 | 100 | 0 | 49.4 | 39.6 | 131 | 0 | 0 | | |

| Sample ID: **LCS-29373** | SampType: **LCS** | TestCode: **PAHLL_W** | Units: **µg/L** | Prep Date: **9/8/2011** | Run ID: **5975Q_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29373** | TestNo: **8270SIM** | | Analysis Date: **9/9/2011** | SeqNo: **775805** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 2.88 | 0.0500 | 5 | 0 | 57.6 | 25.6 | 106 | 0 | 0 | | |
| 2-Methylnaphthalene | 3.07 | 0.0500 | 5 | 0 | 61.4 | 25.6 | 106 | 0 | 0 | | |
| Acenaphthene | 2.88 | 0.0500 | 5 | 0 | 57.6 | 35.1 | 100 | 0 | 0 | | |
| Benzo(a)pyrene | 3.01 | 0.0500 | 5 | 0 | 60.2 | 23.4 | 103 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 2.91 | 0.0500 | 5 | 0 | 58.2 | 20.8 | 120 | 0 | 0 | | |

**Qualifiers:**
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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109044
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_W**

| Sample ID: **LCS-29373** | SampType: **LCS** | TestCode: **PAHLL_W** | Units: **µg/L** | Prep Date: **9/8/2011** | Run ID: **5975Q_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29373** | TestNo: **8270SIM** | | Analysis Date: **9/9/2011** | SeqNo: **775805** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chrysene | 3.15 | 0.0500 | 5 | 0 | 63 | 39.1 | 119 | 0 | 0 | | |
| Naphthalene | 2.8 | 0.0500 | 5 | 0 | 56 | 25.6 | 106 | 0 | 0 | | B |
| Phenanthrene | 2.97 | 0.0500 | 5 | 0 | 59.4 | 38.1 | 106 | 0 | 0 | | |
| Pyrene | 3.63 | 0.0500 | 5 | 0 | 72.6 | 41.3 | 118 | 0 | 0 | | |

| Sample ID: **LCSD-29373** | SampType: **LCSD** | TestCode: **PAHLL_W** | Units: **µg/L** | Prep Date: **9/8/2011** | Run ID: **5975Q_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29373** | TestNo: **8270SIM** | | Analysis Date: **9/9/2011** | SeqNo: **775806** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 2.42 | 0.0500 | 5 | 0 | 48.4 | 25.6 | 106 | 2.88 | 17.4 | 20 | |
| 2-Methylnaphthalene | 2.51 | 0.0500 | 5 | 0 | 50.2 | 25.6 | 106 | 3.07 | 20.1 | 20 | R |
| Acenaphthene | 2.4 | 0.0500 | 5 | 0 | 48 | 35.1 | 100 | 2.88 | 18.2 | 20 | |
| Benzo(a)pyrene | 2.46 | 0.0500 | 5 | 0 | 49.2 | 23.4 | 103 | 3.01 | 20.1 | 20 | R |
| Benzo(g,h,i)perylene | 2.16 | 0.0500 | 5 | 0 | 43.2 | 20.8 | 120 | 2.91 | 29.6 | 20 | R |
| Chrysene | 2.51 | 0.0500 | 5 | 0 | 50.2 | 39.1 | 119 | 3.15 | 22.6 | 20 | R |
| Naphthalene | 2.24 | 0.0500 | 5 | 0 | 44.8 | 25.6 | 106 | 2.8 | 22.2 | 20 | BR |
| Phenanthrene | 2.43 | 0.0500 | 5 | 0 | 48.6 | 38.1 | 106 | 2.97 | 20.0 | 20 | |
| Pyrene | 2.77 | 0.0500 | 5 | 0 | 55.4 | 41.3 | 118 | 3.63 | 26.9 | 20 | R |

| Sample ID: **CCB-29373** | SampType: **CCB** | TestCode: **PAHLL_W** | Units: **µg/L** | Prep Date: | Run ID: **5975Q_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29373** | TestNo: **8270SIM** | | Analysis Date: **9/14/2011** | SeqNo: **776762** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 0.01 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthylene | 0.01 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Anthracene | 0.02 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benz(a)anthracene | 0.1 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(a)pyrene | 0.07 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(b)fluoranthene | 0.09 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 0.04 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(k)fluoranthene | 0.09 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109044
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_W**

Sample ID: **CCB-29373** SampType: **CCB** TestCode: **PAHLL_W** Units: **µg/L** Prep Date: Run ID: **5975Q_110909A**
Client ID: **ZZZZZ** Batch ID: **29373** TestNo: **8270SIM** Analysis Date: **9/14/2011** SeqNo: **776762**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chrysene | 0.1 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 0.06 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluoranthene | 0.02 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluorene | 0.01 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 0.06 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 0.11 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | B |
| Phenanthrene | 0.04 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Pyrene | 0.02 | 0.0500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 2-Fluorobiphenyl | 50.48 | 1.00 | 100 | 0 | 50.5 | 18.6 | 106 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 49.53 | 1.00 | 100 | 0 | 49.5 | 17 | 130 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 58.01 | 1.00 | 100 | 0 | 58 | 39.6 | 131 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **PAHLL_W** Units: **µg/L** Prep Date: Run ID: **5975Q_110909A**
Client ID: **ZZZZZ** Batch ID: **29373** TestNo: **8270SIM** Analysis Date: **9/9/2011** SeqNo: **775800**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 1.1 | 0.0500 | 1 | 0 | 110 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 1.18 | 0.0500 | 1 | 0 | 118 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 0.97 | 0.0500 | 1 | 0 | 97 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 0.94 | 0.0500 | 1 | 0 | 94 | 70 | 130 | 0 | 0 | | |
| Anthracene | 0.84 | 0.0500 | 1 | 0 | 84 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 0.99 | 0.0500 | 1 | 0 | 99 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 0.97 | 0.0500 | 1 | 0 | 97 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 1.05 | 0.0500 | 1 | 0 | 105 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 0.91 | 0.0500 | 1 | 0 | 91 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 1.03 | 0.0500 | 1 | 0 | 103 | 70 | 130 | 0 | 0 | | |
| Chrysene | 1.08 | 0.0500 | 1 | 0 | 108 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 0.95 | 0.0500 | 1 | 0 | 95 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 0.86 | 0.0500 | 1 | 0 | 86 | 70 | 130 | 0 | 0 | | |
| Fluorene | 0.93 | 0.0500 | 1 | 0 | 93 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 1.02 | 0.0500 | 1 | 0 | 102 | 70 | 130 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109044
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_W**

Sample ID: **CCV** SampType: **CCV** TestCode: **PAHLL_W** Units: **µg/L** Prep Date: Run ID: **5975Q_110909A**
Client ID: **ZZZZZ** Batch ID: **29373** TestNo: **8270SIM** Analysis Date: **9/9/2011** SeqNo: **775800**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | 1.03 | 0.0500 | 1 | 0 | 103 | 70 | 130 | 0 | 0 | | B |
| Phenanthrene | 0.96 | 0.0500 | 1 | 0 | 96 | 70 | 130 | 0 | 0 | | |
| Pyrene | 1.2 | 0.0500 | 1 | 0 | 120 | 70 | 130 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

# KEY TO FLAGS

Rev. May 12, 2010

| | |
|---|---|
| A | This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards |
| A1 | This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards. |
| A2 | This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard. |
| A3 | The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type. |
| A4 | The product appears to be aged or degraded diesel. |
| B | The blank exhibited a positive result great than the reporting limit for this compound. |
| CN | See Case Narrative. |
| D | Result is based from a dilution. |
| E | Result exceeds the calibration range for this compound. The result should be considered as estimate. |
| F | The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library. |
| G | Result may be biased high due to biogenic interferences. Clean up is recommended. |
| H | Sample was analyzed outside recommended holding time. |
| HT | At clients request, samples was analyzed outside of recommended holding time. |
| J | The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration. |
| K | Diesel result is biased high due to amount of Oil contained in the sample. |
| L | Diesel result is biased high due to amount of Gasoline contained in the sample. |
| M | Oil result is biased high due to amount of Diesel contained in the sample. |
| MC | Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant. |
| MI | Result is outside control limits due to matrix interference. |
| MSA | Value determined by Method of Standard Addition. |
| O | Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements. |
| Q | Detection levels elevated due to sample matrix. |
| R | RPD control limits were exceeded. |
| RF | Duplicate failed due to result being at or near the method-reporting limit. |
| RP | Matrix spike values exceed established QC limits; post digestion spike is in control. |
| S | Recovery is outside control limits. |
| SC | Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements. |
| * | The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit. |

# CHAIN OF CUSTODY RECORD

Page ___ of ___


## Specialty Analytical
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336


Contact Person/Project Manager: Christina Johnson
Company: MFA
Address: 2001 NW 19th Ave, Ste 200
Portland, OR 97209
Phone: _____ Fax: _____
Project No. 0229.04.01 Project Name: _____
Project Site Location OR: _____ WA: X Other: _____
Invoice To: _____ P.O. No.: _____

Collected By:
Signature: [signature]
Printed: Meaghan Gallagher
Signature: [signature]
Printed: Mike Murray

Turn Around Time
☒ Normal 5-7 Business Days
☐ Rush _____
Specify
**Rush Analyses Must Be Scheduled With The Lab In Advance**

**For Laboratory Use**
Lab Job No. 1109044
Shipped Via: Specialty
Air Bill No.: _____
Temperature On Receipt _____ °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: TPH (GX, DX) | PAH * | PCB * | SVOC * | metals (dissolved) * | VOC * | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/6/11 | 10:08 | MW2 | W | 9 | X | X | X | X | X | X | | |
| 9/6/11 | 17:20 | MW3 | W | 9 | X | X | X | X | X | X | FOLLOW UP dependent on results 9/9/11 | |
| 9/6/11 | 18:20 | MW4 | W | 9 | X | X | X | X | X | X | | |
| ~~9/6/11~~ | ~~—~~ | ~~MW5~~ | | | | | | | | | | |
| ~~9/6/11~~ | ~~—~~ | ~~MW6~~ | | | | | | | | | | |

| Relinquished By: | Date | Time | Received By: | Relinquished By: | Date | Time |
|---|---|---|---|---|---|---|
| Company: MFA | 9/6/11 | 19:30 | Company: Specialty | Company: Specialty | 9/7/11 | 1410 |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Received For Lab By: Nikki Rappleye — Date: 9/7/11 — Time: 1410

Copies: White-Original Yellow-Project File Pink-Customer Copy

# Specialty Analytical

11711 SE Capps Road
Clackamas, OR 97015
(503) 607-1331
Fax (503) 607-1336


September 22, 2011

Christina Johnson
Maul, Foster & Alongi
7223 NE Hazel Dell Avenue
Suite B
Vancouver, WA 98665

TEL: (360) 694-2691
FAX: (360) 906-1958

RE: Port of Camas / 0229.04.03

Order No.: 1109045

Dear Christina Johnson:

Specialty Analytical received 11 samples on 9/7/2011 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Cindy Hillyard
Project Manager

Technical Review

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-1-3 |
| **Lab Order:** | 1109045 | **Collection Date:** | 9/6/2011 8:55:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109045-01 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-HCID** | | **NWHCID** | | | | Analyst: **jrp** |
| Gasoline | ND | 27.5 | | mg/Kg-dry | 1 | 9/8/2011 |
| Mineral Spirits | ND | 27.5 | | mg/Kg-dry | 1 | 9/8/2011 |
| Kerosene | ND | 68.9 | | mg/Kg-dry | 1 | 9/8/2011 |
| Diesel | ND | 68.9 | | mg/Kg-dry | 1 | 9/8/2011 |
| Lube Oil | Lube Oil | 138 | | mg/Kg-dry | 1 | 9/8/2011 |
| Surr: BFB | 133 | 50-150 | | %REC | 1 | 9/8/2011 |
| Surr: o-Terphenyl | 113 | 50-150 | | %REC | 1 | 9/8/2011 |
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 305 | 20.7 | A1 | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | 1180 | 68.9 | A2 | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 104 | 50-150 | | %REC | 1 | 9/13/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **jrp** |
| 1-Methylnaphthalene | 64.3 | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| 2-Methylnaphthalene | 69.8 | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Acenaphthene | 31.2 | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Acenaphthylene | 21.1 | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Anthracene | ND | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Benz(a)anthracene | 22.0 | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Benzo(a)pyrene | 20.2 | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Benzo(b)fluoranthene | 29.4 | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Benzo(g,h,i)perylene | 21.1 | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Benzo(k)fluoranthene | ND | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Chrysene | 33.1 | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Dibenz(a,h)anthracene | ND | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Fluoranthene | 27.5 | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Fluorene | 21.1 | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Indeno(1,2,3-cd)pyrene | 10.1 | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Naphthalene | 71.6 | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Phenanthrene | 33.1 | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Pyrene | 44.1 | 9.19 | | µg/Kg-dry | 1 | 9/9/2011 10:01:00 PM |
| Surr: 2-Fluorobiphenyl | 68.2 | 42.6-128 | | %REC | 1 | 9/9/2011 10:01:00 PM |
| Surr: Nitrobenzene-d5 | 68.7 | 21.7-155 | | %REC | 1 | 9/9/2011 10:01:00 PM |
| Surr: p-Terphenyl-d14 | 65.4 | 44.9-155 | | %REC | 1 | 9/9/2011 10:01:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.459 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | 0.459 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | 0.459 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | 0.459 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | 0.459 | | µg/Kg-dry | 1 | 9/12/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-1-3 |
| **Lab Order:** | 1109045 | **Collection Date:** | 9/6/2011 8:55:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109045-01 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1254 | ND | 0.459 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | ND | 0.459 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | 0.459 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | 0.459 | | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 130 | 56.5-130 | S | %REC | 1 | 9/12/2011 |

# Specialty Analytical

**Date:** *22-Sep-11*

**CLIENT:** Maul, Foster & Alongi
**Client Sample ID:** TP-2-3.5
**Lab Order:** 1109045
**Collection Date:** 9/6/2011 9:45:00 AM
**Project:** Port of Camas / 0229.04.03
**Lab ID:** 1109045-02
**Matrix:** SOIL

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-HCID** | | **NWHCID** | | | | Analyst: **jrp** |
| Gasoline | ND | 25.1 | | mg/Kg-dry | 1 | 9/8/2011 |
| Mineral Spirits | ND | 25.1 | | mg/Kg-dry | 1 | 9/8/2011 |
| Kerosene | ND | 62.8 | | mg/Kg-dry | 1 | 9/8/2011 |
| Diesel | ND | 62.8 | | mg/Kg-dry | 1 | 9/8/2011 |
| Lube Oil | ND | 126 | | mg/Kg-dry | 1 | 9/8/2011 |
| Surr: BFB | 109 | 50-150 | | %REC | 1 | 9/8/2011 |
| Surr: o-Terphenyl | 110 | 50-150 | | %REC | 1 | 9/8/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **jrp** |
| 1-Methylnaphthalene | ND | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| 2-Methylnaphthalene | ND | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Acenaphthene | 9.21 | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Acenaphthylene | ND | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Anthracene | 9.21 | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Benz(a)anthracene | 25.1 | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Benzo(a)pyrene | 22.6 | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Benzo(b)fluoranthene | 31.8 | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Benzo(g,h,i)perylene | 20.1 | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Benzo(k)fluoranthene | ND | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Chrysene | 46.1 | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Dibenz(a,h)anthracene | ND | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Fluoranthene | 39.4 | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Fluorene | ND | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Indeno(1,2,3-cd)pyrene | 14.2 | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Naphthalene | ND | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Phenanthrene | 34.3 | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Pyrene | 58.6 | 8.38 | | µg/Kg-dry | 1 | 9/9/2011 10:28:00 PM |
| Surr: 2-Fluorobiphenyl | 56.8 | 42.6-128 | | %REC | 1 | 9/9/2011 10:28:00 PM |
| Surr: Nitrobenzene-d5 | 57.1 | 21.7-155 | | %REC | 1 | 9/9/2011 10:28:00 PM |
| Surr: p-Terphenyl-d14 | 63.9 | 44.9-155 | | %REC | 1 | 9/9/2011 10:28:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.418 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | 0.418 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | 0.418 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | 0.418 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | 0.418 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1254 | ND | 0.418 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | ND | 0.418 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | 0.418 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | 0.418 | | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 111 | 56.5-130 | | %REC | 1 | 9/12/2011 |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-3-3 |
| **Lab Order:** | 1109045 | **Collection Date:** | 9/6/2011 10:45:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109045-03 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-HCID** | | **NWHCID** | | | | Analyst: **jrp** |
| Gasoline | ND | 28.0 | | mg/Kg-dry | 1 | 9/8/2011 |
| Mineral Spirits | ND | 28.0 | | mg/Kg-dry | 1 | 9/8/2011 |
| Kerosene | ND | 70.0 | | mg/Kg-dry | 1 | 9/8/2011 |
| Diesel | ND | 70.0 | | mg/Kg-dry | 1 | 9/8/2011 |
| Lube Oil | ND | 140 | | mg/Kg-dry | 1 | 9/8/2011 |
| Surr: BFB | 126 | 50-150 | | %REC | 1 | 9/8/2011 |
| Surr: o-Terphenyl | 117 | 50-150 | | %REC | 1 | 9/8/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **jrp** |
| 1-Methylnaphthalene | ND | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| 2-Methylnaphthalene | ND | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Acenaphthene | ND | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Acenaphthylene | ND | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Anthracene | ND | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Benz(a)anthracene | ND | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Benzo(a)pyrene | 15.9 | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Benzo(b)fluoranthene | 17.7 | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Benzo(g,h,i)perylene | 10.3 | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Benzo(k)fluoranthene | ND | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Chrysene | 29.9 | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Dibenz(a,h)anthracene | ND | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Fluoranthene | ND | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Fluorene | ND | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Indeno(1,2,3-cd)pyrene | ND | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Naphthalene | ND | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Phenanthrene | ND | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Pyrene | ND | 9.34 | | µg/Kg-dry | 1 | 9/9/2011 8:14:00 PM |
| Surr: 2-Fluorobiphenyl | 41.4 | 42.6-128 | S | %REC | 1 | 9/9/2011 8:14:00 PM |
| Surr: Nitrobenzene-d5 | 49.1 | 21.7-155 | | %REC | 1 | 9/9/2011 8:14:00 PM |
| Surr: p-Terphenyl-d14 | 77.4 | 44.9-155 | | %REC | 1 | 9/9/2011 8:14:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.466 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | 0.466 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | 0.466 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | 0.466 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | 0.466 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1254 | ND | 0.466 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | ND | 0.466 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | 0.466 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | 0.466 | | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 98.7 | 56.5-130 | | %REC | 1 | 9/12/2011 |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-4-3 |
| **Lab Order:** | 1109045 | **Collection Date:** | 9/6/2011 11:15:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109045-04 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-HCID** | | **NWHCID** | | | | Analyst: **jrp** |
| Gasoline | ND | 24.2 | | mg/Kg-dry | 1 | 9/8/2011 |
| Mineral Spirits | ND | 24.2 | | mg/Kg-dry | 1 | 9/8/2011 |
| Kerosene | ND | 60.5 | | mg/Kg-dry | 1 | 9/8/2011 |
| Diesel | ND | 60.5 | | mg/Kg-dry | 1 | 9/8/2011 |
| Lube Oil | ND | 121 | | mg/Kg-dry | 1 | 9/8/2011 |
| Surr: BFB | 153 | 50-150 | S | %REC | 1 | 9/8/2011 |
| Surr: o-Terphenyl | 136 | 50-150 | | %REC | 1 | 9/8/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **jrp** |
| 1-Methylnaphthalene | ND | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| 2-Methylnaphthalene | ND | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Acenaphthene | ND | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Acenaphthylene | ND | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Anthracene | ND | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Benz(a)anthracene | ND | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Benzo(a)pyrene | ND | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Benzo(b)fluoranthene | 10.5 | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Benzo(g,h,i)perylene | 8.87 | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Benzo(k)fluoranthene | ND | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Chrysene | 9.67 | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Dibenz(a,h)anthracene | ND | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Fluoranthene | 11.3 | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Fluorene | ND | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Indeno(1,2,3-cd)pyrene | ND | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Naphthalene | ND | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Phenanthrene | ND | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Pyrene | 12.9 | 8.07 | | µg/Kg-dry | 1 | 9/9/2011 8:41:00 PM |
| Surr: 2-Fluorobiphenyl | 48.8 | 42.6-128 | | %REC | 1 | 9/9/2011 8:41:00 PM |
| Surr: Nitrobenzene-d5 | 49.1 | 21.7-155 | | %REC | 1 | 9/9/2011 8:41:00 PM |
| Surr: p-Terphenyl-d14 | 75.7 | 44.9-155 | | %REC | 1 | 9/9/2011 8:41:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.403 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | 0.403 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | 0.403 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | 0.403 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | 0.403 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1254 | ND | 0.403 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | ND | 0.403 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | 0.403 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | 0.403 | | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 108 | 56.5-130 | | %REC | 1 | 9/12/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-5-8 |
| **Lab Order:** | 1109045 | **Collection Date:** | 9/6/2011 1:15:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109045-05 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-HCID** | | **NWHCID** | | | | Analyst: **jrp** |
| Gasoline | ND | 43.5 | | mg/Kg-dry | 1 | 9/8/2011 |
| Mineral Spirits | ND | 43.5 | | mg/Kg-dry | 1 | 9/8/2011 |
| Kerosene | ND | 109 | | mg/Kg-dry | 1 | 9/8/2011 |
| Diesel | ND | 109 | | mg/Kg-dry | 1 | 9/8/2011 |
| Lube Oil | Lube Oil | 217 | | mg/Kg-dry | 1 | 9/8/2011 |
| Surr: BFB | 126 | 50-150 | | %REC | 1 | 9/8/2011 |
| Surr: o-Terphenyl | 114 | 50-150 | | %REC | 1 | 9/8/2011 |
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 185 | 32.6 | A1 | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | 662 | 109 | A2 | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 94.0 | 50-150 | | %REC | 1 | 9/13/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | ND | 3.88 | | mg/Kg-dry | 1 | 9/8/2011 1:57:26 PM |
| Barium | 186 | 1.94 | | mg/Kg-dry | 1 | 9/8/2011 1:57:26 PM |
| Cadmium | 0.291 | 0.194 | | mg/Kg-dry | 1 | 9/8/2011 1:57:26 PM |
| Chromium | 21.2 | 0.970 | | mg/Kg-dry | 1 | 9/8/2011 1:57:26 PM |
| Lead | 46.8 | 3.88 | | mg/Kg-dry | 1 | 9/8/2011 1:57:26 PM |
| Selenium | ND | 3.88 | | mg/Kg-dry | 1 | 9/8/2011 1:57:26 PM |
| Silver | ND | 3.88 | | mg/Kg-dry | 1 | 9/8/2011 1:57:26 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0963 | 0.0227 | | mg/Kg-dry | 1 | 9/8/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **jrp** |
| 1-Methylnaphthalene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| 2-Methylnaphthalene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Acenaphthene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Acenaphthylene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Anthracene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Benz(a)anthracene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Benzo(a)pyrene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Benzo(b)fluoranthene | 18.8 | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Benzo(g,h,i)perylene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Benzo(k)fluoranthene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Chrysene | 21.7 | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Dibenz(a,h)anthracene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Fluoranthene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Fluorene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Indeno(1,2,3-cd)pyrene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Naphthalene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Phenanthrene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-5-8 |
| **Lab Order:** | 1109045 | **Collection Date:** | 9/6/2011 1:15:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109045-05 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **jrp** |
| Pyrene | ND | 14.5 | | µg/Kg-dry | 1 | 9/9/2011 9:08:00 PM |
| Surr: 2-Fluorobiphenyl | 57.3 | 42.6-128 | | %REC | 1 | 9/9/2011 9:08:00 PM |
| Surr: Nitrobenzene-d5 | 62.7 | 21.7-155 | | %REC | 1 | 9/9/2011 9:08:00 PM |
| Surr: p-Terphenyl-d14 | 65.8 | 44.9-155 | | %REC | 1 | 9/9/2011 9:08:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.724 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | 0.724 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | 0.724 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | 0.724 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | 0.724 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1254 | ND | 0.724 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | ND | 0.724 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | 0.724 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | 0.724 | | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 96.0 | 56.5-130 | | %REC | 1 | 9/12/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-5-16.5 |
| **Lab Order:** | 1109045 | **Collection Date:** | 9/6/2011 1:05:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109045-06 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **ADM** |
| Hold | Hold | | | | 1 | 9/22/2011 |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-6-8 |
| **Lab Order:** | 1109045 | **Collection Date:** | 9/6/2011 3:00:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109045-07 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-HCID** | | **NWHCID** | | | | Analyst: **jrp** |
| Gasoline | ND | 33.1 | | mg/Kg-dry | 1 | 9/8/2011 |
| Mineral Spirits | ND | 33.1 | | mg/Kg-dry | 1 | 9/8/2011 |
| Kerosene | ND | 82.6 | | mg/Kg-dry | 1 | 9/8/2011 |
| Diesel | ND | 82.6 | | mg/Kg-dry | 1 | 9/8/2011 |
| Lube Oil | Lube Oil | 165 | | mg/Kg-dry | 1 | 9/8/2011 |
| Surr: BFB | 126 | 50-150 | | %REC | 1 | 9/8/2011 |
| Surr: o-Terphenyl | 109 | 50-150 | | %REC | 1 | 9/8/2011 |
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 187 | 24.8 | A1 | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | 1140 | 82.6 | A2 | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 98.1 | 50-150 | | %REC | 1 | 9/13/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **jrp** |
| 1-Methylnaphthalene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| 2-Methylnaphthalene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Acenaphthene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Acenaphthylene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Anthracene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Benz(a)anthracene | 22.0 | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Benzo(a)pyrene | 23.1 | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Benzo(b)fluoranthene | 34.2 | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Benzo(g,h,i)perylene | 26.4 | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Benzo(k)fluoranthene | 12.1 | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Chrysene | 34.2 | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Dibenz(a,h)anthracene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Fluoranthene | 20.9 | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Fluorene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Indeno(1,2,3-cd)pyrene | 15.4 | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Naphthalene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Phenanthrene | 18.7 | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Pyrene | 30.9 | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 9:34:00 PM |
| Surr: 2-Fluorobiphenyl | 49.2 | 42.6-128 | | %REC | 1 | 9/9/2011 9:34:00 PM |
| Surr: Nitrobenzene-d5 | 53.8 | 21.7-155 | | %REC | 1 | 9/9/2011 9:34:00 PM |
| Surr: p-Terphenyl-d14 | 64.7 | 44.9-155 | | %REC | 1 | 9/9/2011 9:34:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.550 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | 0.550 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | 0.550 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | 0.550 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | 0.550 | | µg/Kg-dry | 1 | 9/12/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-6-8 |
| **Lab Order:** | 1109045 | **Collection Date:** | 9/6/2011 3:00:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109045-07 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1254 | ND | 0.550 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | ND | 0.550 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | 0.550 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | 0.550 | | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 79.7 | 56.5-130 | | %REC | 1 | 9/12/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-7-2 |
| **Lab Order:** | 1109045 | **Collection Date:** | 9/6/2011 3:30:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109045-08 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 16.7 | A3 | mg/Kg-dry | 1 | 9/9/2011 |
| Lube Oil | 676 | 55.7 | | mg/Kg-dry | 1 | 9/9/2011 |
| Surr: o-Terphenyl | 87.6 | 50-150 | | %REC | 1 | 9/9/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 6.09 | 2.14 | | mg/Kg-dry | 1 | 9/8/2011 2:02:25 PM |
| Barium | 106 | 1.07 | B | mg/Kg-dry | 1 | 9/8/2011 2:02:25 PM |
| Cadmium | 0.214 | 0.107 | | mg/Kg-dry | 1 | 9/8/2011 2:02:25 PM |
| Chromium | 16.3 | 0.536 | | mg/Kg-dry | 1 | 9/8/2011 2:02:25 PM |
| Lead | 24.2 | 2.14 | | mg/Kg-dry | 1 | 9/8/2011 2:02:25 PM |
| Selenium | ND | 2.14 | | mg/Kg-dry | 1 | 9/8/2011 2:02:25 PM |
| Silver | ND | 2.14 | | mg/Kg-dry | 1 | 9/8/2011 2:02:25 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0190 | 0.0103 | | mg/Kg-dry | 1 | 9/8/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-8-1.5 |
| **Lab Order:** | 1109045 | **Collection Date:** | 9/6/2011 3:45:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109045-09 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 18.6 | | mg/Kg-dry | 1 | 9/9/2011 |
| Lube Oil | ND | 61.9 | | mg/Kg-dry | 1 | 9/9/2011 |
| Surr: o-Terphenyl | 87.9 | 50-150 | | %REC | 1 | 9/9/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 3.51 | 2.21 | | mg/Kg-dry | 1 | 9/8/2011 2:07:24 PM |
| Barium | 238 | 1.11 | B | mg/Kg-dry | 1 | 9/8/2011 2:07:24 PM |
| Cadmium | ND | 0.111 | | mg/Kg-dry | 1 | 9/8/2011 2:07:24 PM |
| Chromium | 18.3 | 0.553 | | mg/Kg-dry | 1 | 9/8/2011 2:07:24 PM |
| Lead | 5.25 | 2.21 | | mg/Kg-dry | 1 | 9/8/2011 2:07:24 PM |
| Selenium | ND | 2.21 | | mg/Kg-dry | 1 | 9/8/2011 2:07:24 PM |
| Silver | ND | 2.21 | | mg/Kg-dry | 1 | 9/8/2011 2:07:24 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0314 | 0.0129 | | mg/Kg-dry | 1 | 9/8/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-1-1.5 |
| **Lab Order:** | 1109045 | **Collection Date:** | 9/6/2011 4:05:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109045-10 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 67.2 | 17.3 | A11K | mg/Kg-dry | 1 | 9/9/2011 |
| Lube Oil | 304 | 57.8 | | mg/Kg-dry | 1 | 9/9/2011 |
| Surr: o-Terphenyl | 89.5 | 50-150 | | %REC | 1 | 9/9/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | ND | 2.06 | | mg/Kg-dry | 1 | 9/8/2011 2:12:23 PM |
| Barium | 147 | 1.03 | B | mg/Kg-dry | 1 | 9/8/2011 2:12:23 PM |
| Cadmium | ND | 0.103 | | mg/Kg-dry | 1 | 9/8/2011 2:12:23 PM |
| Chromium | 20.2 | 0.516 | | mg/Kg-dry | 1 | 9/8/2011 2:12:23 PM |
| Lead | 26.9 | 2.06 | | mg/Kg-dry | 1 | 9/8/2011 2:12:23 PM |
| Selenium | ND | 2.06 | | mg/Kg-dry | 1 | 9/8/2011 2:12:23 PM |
| Silver | 2.83 | 2.06 | | mg/Kg-dry | 1 | 9/8/2011 2:12:23 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0281 | 0.0126 | | mg/Kg-dry | 1 | 9/8/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-2-1.5 |
| **Lab Order:** | 1109045 | **Collection Date:** | 9/6/2011 4:15:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109045-11 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 44.1 | 17.3 | A1 | mg/Kg-dry | 1 | 9/9/2011 |
| Lube Oil | 224 | 57.8 | A2 | mg/Kg-dry | 1 | 9/9/2011 |
| Surr: o-Terphenyl | 84.8 | 50-150 | | %REC | 1 | 9/9/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | ND | 2.22 | | mg/Kg-dry | 1 | 9/14/2011 11:16:13 AM |
| Barium | 139 | 1.11 | B | mg/Kg-dry | 1 | 9/14/2011 11:16:13 AM |
| Cadmium | ND | 0.111 | | mg/Kg-dry | 1 | 9/14/2011 11:16:13 AM |
| Chromium | 16.9 | 0.556 | | mg/Kg-dry | 1 | 9/14/2011 11:16:13 AM |
| Lead | 11.4 | 2.22 | | mg/Kg-dry | 1 | 9/14/2011 11:16:13 AM |
| Selenium | ND | 2.22 | | mg/Kg-dry | 1 | 9/14/2011 11:16:13 AM |
| Silver | 10.6 | 2.22 | | mg/Kg-dry | 1 | 9/14/2011 11:16:13 AM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0433 | 0.00982 | | mg/Kg-dry | 1 | 9/8/2011 |

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **MBLK-29359** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/7/2011** | Run ID: **TJA IRIS_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29359** | TestNo: **E6010** | | Analysis Date: **9/8/2011** | SeqNo: **775355** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 2.00 | | | | | | | | | |
| Barium | 1.85 | 1.00 | | | | | | | | | |
| Cadmium | ND | 0.100 | | | | | | | | | |
| Chromium | ND | 0.500 | | | | | | | | | |
| Lead | ND | 2.00 | | | | | | | | | |
| Selenium | ND | 2.00 | | | | | | | | | |
| Silver | ND | 2.00 | | | | | | | | | |

| Sample ID: **LCS-29359** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/7/2011** | Run ID: **TJA IRIS_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29359** | TestNo: **E6010** | | Analysis Date: **9/8/2011** | SeqNo: **775356** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.67 | 2.00 | 100 | 0 | 96.7 | 85.1 | 107 | 0 | 0 | | |
| Barium | 50.18 | 1.00 | 50 | 0 | 100 | 85.7 | 110 | 0 | 0 | | B |
| Cadmium | 4.87 | 0.100 | 5 | 0 | 97.4 | 87.2 | 109 | 0 | 0 | | |
| Chromium | 26.21 | 0.500 | 25 | 0 | 105 | 84 | 113 | 0 | 0 | | |
| Lead | 98.96 | 2.00 | 100 | 0 | 99 | 84.9 | 109 | 0 | 0 | | |
| Selenium | 97.83 | 2.00 | 100 | 0 | 97.8 | 88.7 | 111 | 0 | 0 | | |
| Silver | 47.39 | 2.00 | 50 | 0 | 94.8 | 79.3 | 109 | 0 | 0 | | |

| Sample ID: **1109038-01AMS** | SampType: **MS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/7/2011** | Run ID: **TJA IRIS_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29359** | TestNo: **E6010** | | Analysis Date: **9/8/2011** | SeqNo: **775359** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 85.8 | 1.79 | 89.29 | 0 | 96.1 | 86.1 | 109 | 0 | 0 | | |
| Barium | 137.2 | 0.893 | 44.64 | 115.3 | 49.2 | 75 | 125 | 0 | 0 | | B,S,RP |
| Cadmium | 4.366 | 0.0893 | 4.464 | 0 | 97.8 | 86.4 | 113 | 0 | 0 | | |
| Chromium | 29.34 | 0.446 | 22.32 | 5.327 | 108 | 75 | 121 | 0 | 0 | | |
| Lead | 93.84 | 1.79 | 89.29 | 9.519 | 94.4 | 84.9 | 109 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **1109038-01AMS** | SampType: **MS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/7/2011** | Run ID: **TJA IRIS_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29359** | TestNo: **E6010** | | Analysis Date: **9/8/2011** | SeqNo: **775359** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Selenium | 79.13 | 1.79 | 89.29 | 0 | 88.6 | 77.7 | 116 | 0 | 0 | | |
| Silver | 50.63 | 1.79 | 44.64 | 3.413 | 106 | 75 | 123 | 0 | 0 | | |

| Sample ID: **1109038-01AMSD** | SampType: **MSD** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/7/2011** | Run ID: **TJA IRIS_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29359** | TestNo: **E6010** | | Analysis Date: **9/8/2011** | SeqNo: **775360** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 86.62 | 1.79 | 89.29 | 0 | 97 | 86.1 | 109 | 85.8 | 0.942 | 20 | |
| Barium | 152 | 0.893 | 44.64 | 115.3 | 82.2 | 75 | 125 | 137.2 | 10.2 | 20 | B |
| Cadmium | 4.491 | 0.0893 | 4.464 | 0 | 101 | 86.4 | 113 | 4.366 | 2.82 | 20 | |
| Chromium | 29.05 | 0.446 | 22.32 | 5.327 | 106 | 75 | 121 | 29.34 | 0.979 | 20 | |
| Lead | 98.04 | 1.79 | 89.29 | 9.519 | 99.1 | 84.9 | 109 | 93.84 | 4.37 | 20 | |
| Selenium | 78.75 | 1.79 | 89.29 | 0 | 88.2 | 77.7 | 116 | 79.13 | 0.486 | 20 | |
| Silver | 49.19 | 1.79 | 44.64 | 3.413 | 103 | 75 | 123 | 50.63 | 2.90 | 20 | |

| Sample ID: **1109038-01ADUP** | SampType: **DUP** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/7/2011** | Run ID: **TJA IRIS_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29359** | TestNo: **E6010** | | Analysis Date: **9/8/2011** | SeqNo: **775358** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 1.92 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Barium | 166.2 | 0.962 | 0 | 0 | 0 | 0 | 0 | 115.3 | 36.1 | 20 | BR |
| Cadmium | 0.09615 | 0.0962 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | J |
| Chromium | 7.356 | 0.481 | 0 | 0 | 0 | 0 | 0 | 5.327 | 32.0 | 20 | R |
| Lead | 8.587 | 1.92 | 0 | 0 | 0 | 0 | 0 | 9.519 | 10.3 | 20 | |
| Selenium | ND | 1.92 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Silver | 4.269 | 1.92 | 0 | 0 | 0 | 0 | 0 | 3.413 | 22.3 | 20 | RF |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29359** | TestNo: **E6010** | | Analysis Date: **9/8/2011** | SeqNo: **775365** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110908A**
Client ID: **ZZZZZ** Batch ID: **29359** TestNo: **E6010** Analysis Date: **9/8/2011** SeqNo: **775365**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 103.5 | 2.00 | 100 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Barium | 50.84 | 1.00 | 50 | 0 | 102 | 90 | 110 | 0 | 0 | | B |
| Cadmium | 5.09 | 0.100 | 5 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Chromium | 26.96 | 0.500 | 25 | 0 | 108 | 90 | 110 | 0 | 0 | | |
| Lead | 103.6 | 2.00 | 100 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Selenium | 101.6 | 2.00 | 100 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Silver | 53.13 | 2.00 | 50 | 0 | 106 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110908A**
Client ID: **ZZZZZ** Batch ID: **29359** TestNo: **E6010** Analysis Date: **9/8/2011** SeqNo: **775406**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 103.9 | 2.00 | 100 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Barium | 51.25 | 1.00 | 50 | 0 | 103 | 90 | 110 | 0 | 0 | | B |
| Cadmium | 5.06 | 0.100 | 5 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Chromium | 27 | 0.500 | 25 | 0 | 108 | 90 | 110 | 0 | 0 | | |
| Lead | 104.6 | 2.00 | 100 | 0 | 105 | 90 | 110 | 0 | 0 | | |
| Selenium | 101.5 | 2.00 | 100 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Silver | 51.82 | 2.00 | 50 | 0 | 104 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110908A**
Client ID: **ZZZZZ** Batch ID: **29359** TestNo: **E6010** Analysis Date: **9/14/2011** SeqNo: **776577**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 94.36 | 2.00 | 100 | 0 | 94.4 | 90 | 110 | 0 | 0 | | |
| Barium | 48.45 | 1.00 | 50 | 0 | 96.9 | 90 | 110 | 0 | 0 | | B |
| Cadmium | 4.82 | 0.100 | 5 | 0 | 96.4 | 90 | 110 | 0 | 0 | | |
| Chromium | 24.27 | 0.500 | 25 | 0 | 97.1 | 90 | 110 | 0 | 0 | | |
| Lead | 95.27 | 2.00 | 100 | 0 | 95.3 | 90 | 110 | 0 | 0 | | |
| Selenium | 92.85 | 2.00 | 100 | 0 | 92.8 | 90 | 110 | 0 | 0 | | |
| Silver | 51.47 | 2.00 | 50 | 0 | 103 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110908A**
Client ID: **ZZZZZ** Batch ID: **29359** TestNo: **E6010** Analysis Date: **9/8/2011** SeqNo: **775354**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 102.3 | 2.00 | 100 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Barium | 51.17 | 1.00 | 50 | 0 | 102 | 90 | 110 | 0 | 0 | | B |
| Cadmium | 5.02 | 0.100 | 5 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Chromium | 26.76 | 0.500 | 25 | 0 | 107 | 90 | 110 | 0 | 0 | | |
| Lead | 104 | 2.00 | 100 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Selenium | 101.1 | 2.00 | 100 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Silver | 50.74 | 2.00 | 50 | 0 | 101 | 90 | 110 | 0 | 0 | | |

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110908A**
Client ID: **ZZZZZ** Batch ID: **29359** TestNo: **E6010** Analysis Date: **9/14/2011** SeqNo: **776575**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.59 | 2.00 | 100 | 0 | 96.6 | 90 | 110 | 0 | 0 | | |
| Barium | 50.64 | 1.00 | 50 | 0 | 101 | 90 | 110 | 0 | 0 | | B |
| Cadmium | 5.01 | 0.100 | 5 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Chromium | 24.6 | 0.500 | 25 | 0 | 98.4 | 90 | 110 | 0 | 0 | | |
| Lead | 99.64 | 2.00 | 100 | 0 | 99.6 | 90 | 110 | 0 | 0 | | |
| Selenium | 97.3 | 2.00 | 100 | 0 | 97.3 | 90 | 110 | 0 | 0 | | |
| Silver | 51.57 | 2.00 | 50 | 0 | 103 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **MB-29381** | SampType: **MBLK** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **9/8/2011** | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776338** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016 | ND | 0.333 | | | | | | | | | |
| Aroclor 1221 | ND | 0.333 | | | | | | | | | |
| Aroclor 1232 | ND | 0.333 | | | | | | | | | |
| Aroclor 1242 | ND | 0.333 | | | | | | | | | |
| Aroclor 1248 | ND | 0.333 | | | | | | | | | |
| Aroclor 1254 | ND | 0.333 | | | | | | | | | |
| Aroclor 1260 | ND | 0.333 | | | | | | | | | |
| Aroclor 1262 | ND | 0.333 | | | | | | | | | |
| Aroclor 1268 | ND | 0.333 | | | | | | | | | |
| Surr: Decachlorobiphenyl | 8437 | 0 | 6667 | 0 | 127 | 56.5 | 130 | 0 | 0 | | |

| Sample ID: **LCS-29381** | SampType: **LCS** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **9/8/2011** | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776339** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 60.67 | 0.333 | 66.67 | 0 | 91 | 44.3 | 137 | 0 | 0 | | |

| Sample ID: **1109045-04AMS** | SampType: **MS** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **9/8/2011** | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **TP-4-3** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776340** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 48.37 | 0.403 | 80.61 | 0 | 60 | 56.6 | 123 | 0 | 0 | | |

| Sample ID: **1109045-04AMSD** | SampType: **MSD** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **9/8/2011** | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **TP-4-3** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776341** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 50.79 | 0.403 | 80.61 | 0 | 63 | 56.6 | 123 | 48.37 | 4.88 | 20 | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776337** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 67.33 | 0.333 | 66.67 | 0 | 101 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776348** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 72 | 0.333 | 66.67 | 0 | 108 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776528** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 64 | 0.333 | 66.67 | 0 | 96 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 58 | 0.333 | 66.67 | 0 | 87 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HCID_NW**

Sample ID: **MB-29367** SampType: **MBLK** TestCode: **HCID_NW** Units: **mg/Kg** Prep Date: **9/8/2011** Run ID: **GC-M_110908C**
Client ID: **ZZZZZ** Batch ID: **29367** TestNo: **NWHCID** Analysis Date: **9/8/2011** SeqNo: **775598**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 15.85 | 20.0 | | | | | | | | | J |
| Mineral Spirits | ND | 20.0 | | | | | | | | | |
| Kerosene | ND | 50.0 | | | | | | | | | |
| Diesel | 20.43 | 50.0 | | | | | | | | | J |
| Lube Oil | ND | 100 | | | | | | | | | |
| Surr: BFB | 99.02 | 0 | 100 | 0 | 99 | 50 | 150 | 0 | 0 | | |
| Surr: o-Terphenyl | 100.2 | 0 | 100 | 0 | 100 | 50 | 150 | 0 | 0 | | |

Sample ID: **1109045-01ADUP** SampType: **DUP** TestCode: **HCID_NW** Units: **mg/Kg-dry** Prep Date: **9/8/2011** Run ID: **GC-M_110908C**
Client ID: **TP-1-3** Batch ID: **29367** TestNo: **NWHCID** Analysis Date: **9/8/2011** SeqNo: **775605**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 21.89 | 27.5 | 0 | 0 | 0 | 0 | 0 | 20.83 | 0 | 20 | J |
| Mineral Spirits | ND | 27.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Kerosene | ND | 68.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Diesel | 150.2 | 68.9 | 0 | 0 | 0 | 0 | 0 | 67.6 | 75.8 | 20 | |
| Lube Oil | 1173 | 138 | 0 | 0 | 0 | 0 | 0 | 792.9 | 38.7 | 20 | |

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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **MB-29370** | SampType: **MBLK** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **CVAA_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29370** | TestNo: **SW7471** | | Analysis Date: **9/8/2011** | SeqNo: **775304** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.0014 | 0.0167 | | | | | | | | | J |

| Sample ID: **LCS-29370** | SampType: **LCS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **CVAA_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29370** | TestNo: **SW7471** | | Analysis Date: **9/8/2011** | SeqNo: **775303** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2579 | 0.0167 | 0.25 | 0 | 103 | 88.2 | 113 | 0 | 0 | | |

| Sample ID: **1109045-08AMS** | SampType: **MS** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **9/8/2011** | Run ID: **CVAA_110908A** |
|---|---|---|---|---|---|
| Client ID: **TP-7-2** | Batch ID: **29370** | TestNo: **SW7471** | | Analysis Date: **9/8/2011** | SeqNo: **775297** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.1622 | 0.00997 | 0.1493 | 0.01904 | 95.9 | 78.1 | 125 | 0 | 0 | | |

| Sample ID: **1109045-08AMSD** | SampType: **MSD** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **9/8/2011** | Run ID: **CVAA_110908A** |
|---|---|---|---|---|---|
| Client ID: **TP-7-2** | Batch ID: **29370** | TestNo: **SW7471** | | Analysis Date: **9/8/2011** | SeqNo: **775298** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.1671 | 0.0103 | 0.1548 | 0.01904 | 95.6 | 78.1 | 125 | 0.1622 | 2.96 | 20 | |

| Sample ID: **1109045-08ADUP** | SampType: **DUP** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **9/8/2011** | Run ID: **CVAA_110908A** |
|---|---|---|---|---|---|
| Client ID: **TP-7-2** | Batch ID: **29370** | TestNo: **SW7471** | | Analysis Date: **9/8/2011** | SeqNo: **775296** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.01645 | 0.0107 | 0 | 0 | 0 | 0 | 0 | 0.01904 | 14.6 | 20 | |

| Sample ID: **CCV-29370** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29370** | TestNo: **SW7471** | | Analysis Date: **9/8/2011** | SeqNo: **775302** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **CCV-29370** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29370** | TestNo: **SW7471** | | Analysis Date: **9/8/2011** | SeqNo: **775302** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2515 | 0.0167 | 0.25 | 0 | 101 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV-29370** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29370** | TestNo: **SW7471** | | Analysis Date: **9/8/2011** | SeqNo: **775305** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2506 | 0.0167 | 0.25 | 0 | 100 | 90 | 110 | 0 | 0 | | |

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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

| Sample ID: **MB-29364** | SampType: **MBLK** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **9/7/2011** | Run ID: **GC-M_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29364** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/8/2011** | SeqNo: **775319** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | | | | | | | | | |
| Lube Oil | ND | 50.0 | | | | | | | | | |
| Surr: o-Terphenyl | 35.35 | 0 | 33.33 | 0 | 106 | 50 | 150 | 0 | 0 | | |

| Sample ID: **MB-29407** | SampType: **MBLK** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **GC-M_110913A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29407** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/13/2011** | SeqNo: **776399** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | | | | | | | | | |
| Lube Oil | ND | 50.0 | | | | | | | | | |
| Surr: o-Terphenyl | 32.22 | 0 | 33.33 | 0 | 96.7 | 50 | 150 | 0 | 0 | | |

| Sample ID: **LCS-29364** | SampType: **LCS** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **9/7/2011** | Run ID: **GC-M_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29364** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/8/2011** | SeqNo: **775320** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 187.2 | 15.0 | 166.6 | 0 | 112 | 76.3 | 125 | 0 | 0 | | |
| Lube Oil | 203.2 | 50.0 | 166.6 | 0 | 122 | 69.9 | 127 | 0 | 0 | | |

| Sample ID: **LCS-29407** | SampType: **LCS** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **GC-M_110913A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29407** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/13/2011** | SeqNo: **776400** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 181.6 | 15.0 | 166.6 | 0 | 109 | 76.3 | 125 | 0 | 0 | | |
| Lube Oil | 188.8 | 50.0 | 166.6 | 0 | 113 | 69.9 | 127 | 0 | 0 | | |

| Sample ID: **1109038-01BDUP** | SampType: **DUP** | TestCode: **NWTPHDX_S** | Units: **mg/Kg-dry** | Prep Date: **9/7/2011** | Run ID: **GC-M_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29364** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/8/2011** | SeqNo: **775322** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

Sample ID: **1109038-01BDUP** SampType: **DUP** TestCode: **NWTPHDX_S** Units: **mg/Kg-dry** Prep Date: **9/7/2011** Run ID: **GC-M_110908A**
Client ID: **ZZZZZ** Batch ID: **29364** TestNo: **NWTPH-Dx** Analysis Date: **9/8/2011** SeqNo: **775322**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 16.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | A3 |
| Lube Oil | 136.3 | 54.0 | 0 | 0 | 0 | 0 | 0 | 131.6 | 3.54 | 20 | |

Sample ID: **1109056-01ADUP** SampType: **DUP** TestCode: **NWTPHDX_S** Units: **mg/Kg-dry** Prep Date: **9/12/2011** Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/13/2011** SeqNo: **776402**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 2022 | 16.4 | 0 | 0 | 0 | 0 | 0 | 1969 | 2.66 | 20 | |
| Lube Oil | 71.52 | 54.6 | 0 | 0 | 0 | 0 | 0 | 79.15 | 10.1 | 20 | M |

Sample ID: **1109045-07ADUP** SampType: **DUP** TestCode: **NWTPHDX_S** Units: **mg/Kg-dry** Prep Date: **9/12/2011** Run ID: **GC-M_110913A**
Client ID: **TP-6-8** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/13/2011** SeqNo: **776483**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 117.5 | 24.8 | 0 | 0 | 0 | 0 | 0 | 186.5 | 45.4 | 20 | R,MI,A1 |
| Lube Oil | 764.2 | 82.6 | 0 | 0 | 0 | 0 | 0 | 1139 | 39.4 | 20 | R,MI,A2 |

Sample ID: **CCB** SampType: **CCB** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110908A**
Client ID: **ZZZZZ** Batch ID: **29364** TestNo: **NWTPH-Dx** Analysis Date: **9/9/2011** SeqNo: **776004**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Lube Oil | 4.33 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: o-Terphenyl | 33.25 | 0 | 33.33 | 0 | 99.8 | 50 | 150 | 0 | 0 | | |

Sample ID: **CCB** SampType: **CCB** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: **9/12/2011** Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/14/2011** SeqNo: **776705**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

| Sample ID: **CCB** | SampType: **CCB** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **GC-M_110913A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29407** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/14/2011** | SeqNo: **776705** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lube Oil | 4.553 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: o-Terphenyl | 32.69 | 0 | 33.33 | 0 | 98.1 | 50 | 150 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29364** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/8/2011** | SeqNo: **775318** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1011 | 15.0 | 1009 | 0 | 100 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 563.5 | 50.0 | 524.9 | 0 | 107 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29364** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/8/2011** | SeqNo: **775384** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1321 | 15.0 | 1346 | 0 | 98.2 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 714 | 50.0 | 699.9 | 0 | 102 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29364** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/9/2011** | SeqNo: **776003** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1339 | 15.0 | 1346 | 0 | 99.5 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 715.5 | 50.0 | 699.9 | 0 | 102 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_110908A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29364** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/9/2011** | SeqNo: **776009** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1008 | 15.0 | 1009 | 0 | 99.9 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 535.9 | 50.0 | 524.9 | 0 | 102 | 85 | 115 | 0 | 0 | | |

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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_110913A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29407** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/13/2011** | SeqNo: **776398** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1052 | 15.0 | 1009 | 0 | 104 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 586.3 | 50.0 | 524.9 | 0 | 112 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_110913A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29407** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/13/2011** | SeqNo: **776412** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1368 | 15.0 | 1346 | 0 | 102 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 740.4 | 50.0 | 699.9 | 0 | 106 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_110913A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29407** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/13/2011** | SeqNo: **776492** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1005 | 15.0 | 1009 | 0 | 99.6 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 544.2 | 50.0 | 524.9 | 0 | 104 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_110913A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29407** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/14/2011** | SeqNo: **776703** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1046 | 15.0 | 1009 | 0 | 104 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 548.1 | 50.0 | 524.9 | 0 | 104 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_110913A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29407** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/14/2011** | SeqNo: **776707** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1054 | 15.0 | 1009 | 0 | 104 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 556.7 | 50.0 | 524.9 | 0 | 106 | 85 | 115 | 0 | 0 | | |

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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **MB-29365** SampType: **MBLK** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **9/7/2011** Run ID: **5975Q_110908A**
Client ID: **ZZZZZ** Batch ID: **29365** TestNo: **8270SIM** Analysis Date: **9/8/2011** SeqNo: **775327**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ND | 6.67 | | | | | | | | | |
| 2-Methylnaphthalene | ND | 6.67 | | | | | | | | | |
| Acenaphthene | ND | 6.67 | | | | | | | | | |
| Acenaphthylene | ND | 6.67 | | | | | | | | | |
| Anthracene | ND | 6.67 | | | | | | | | | |
| Benz(a)anthracene | ND | 6.67 | | | | | | | | | |
| Benzo(a)pyrene | 0.6667 | 6.67 | | | | | | | | | J |
| Benzo(b)fluoranthene | ND | 6.67 | | | | | | | | | |
| Benzo(g,h,i)perylene | ND | 6.67 | | | | | | | | | |
| Benzo(k)fluoranthene | 0.6667 | 6.67 | | | | | | | | | J |
| Chrysene | ND | 6.67 | | | | | | | | | |
| Dibenz(a,h)anthracene | 0.6667 | 6.67 | | | | | | | | | J |
| Fluoranthene | 0.6667 | 6.67 | | | | | | | | | J |
| Fluorene | ND | 6.67 | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 6.67 | | | | | | | | | |
| Naphthalene | 1.333 | 6.67 | | | | | | | | | J |
| Phenanthrene | 0.6667 | 6.67 | | | | | | | | | J |
| Pyrene | ND | 6.67 | | | | | | | | | |
| Surr: 2-Fluorobiphenyl | 3013 | 0 | 6667 | 0 | 45.2 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 3311 | 0 | 6667 | 0 | 49.7 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 3794 | 0 | 6667 | 0 | 56.9 | 44.9 | 155 | 0 | 0 | | |

Sample ID: **LCS-29365** SampType: **LCS** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **9/7/2011** Run ID: **5975Q_110908A**
Client ID: **ZZZZZ** Batch ID: **29365** TestNo: **8270SIM** Analysis Date: **9/9/2011** SeqNo: **775767**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 240.7 | 6.67 | 333.3 | 0 | 72.2 | 29.1 | 109 | 0 | 0 | | |
| 2-Methylnaphthalene | 260 | 6.67 | 333.3 | 0 | 78 | 29.1 | 109 | 0 | 0 | | |
| Acenaphthene | 231.3 | 6.67 | 333.3 | 0 | 69.4 | 39.6 | 107 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 225.3 | 6.67 | 333.3 | 0 | 67.6 | 49.7 | 135 | 0 | 0 | | |
| Chrysene | 277.3 | 6.67 | 333.3 | 0 | 83.2 | 57.1 | 130 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **LCS-29365** SampType: **LCS** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **9/7/2011** Run ID: **5975Q_110908A**
Client ID: **ZZZZZ** Batch ID: **29365** TestNo: **8270SIM** Analysis Date: **9/9/2011** SeqNo: **775767**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | 193.3 | 6.67 | 333.3 | 1.333 | 57.6 | 29.1 | 109 | 0 | 0 | | |
| Phenanthrene | 238 | 6.67 | 333.3 | 0.6667 | 71.2 | 48.4 | 115 | 0 | 0 | | |
| Pyrene | 292.7 | 6.67 | 333.3 | 0 | 87.8 | 47.2 | 134 | 0 | 0 | | |

Sample ID: **1109038-02AMS** SampType: **MS** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **9/7/2011** Run ID: **5975Q_110908A**
Client ID: **ZZZZZ** Batch ID: **29365** TestNo: **8270SIM** Analysis Date: **9/8/2011** SeqNo: **775391**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 118.7 | 6.67 | 333.3 | 0 | 35.6 | 27.7 | 108 | 0 | 0 | | |
| 2-Methylnaphthalene | 147.3 | 6.67 | 333.3 | 0 | 44.2 | 27.7 | 108 | 0 | 0 | | |
| Acenaphthene | 123.3 | 6.67 | 333.3 | 0 | 37 | 33.7 | 111 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 154.7 | 6.67 | 333.3 | 2.667 | 45.6 | 15 | 128 | 0 | 0 | | |
| Chrysene | 158.7 | 6.67 | 333.3 | 6 | 45.8 | 37.5 | 125 | 0 | 0 | | |
| Naphthalene | 104 | 6.67 | 333.3 | 2 | 30.6 | 27.7 | 108 | 0 | 0 | | |
| Phenanthrene | 138.7 | 6.67 | 333.3 | 2 | 41 | 20.2 | 139 | 0 | 0 | | |
| Pyrene | 176 | 6.67 | 333.3 | 3.333 | 51.8 | 26.8 | 142 | 0 | 0 | | |

Sample ID: **1109038-02AMSD** SampType: **MSD** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **9/7/2011** Run ID: **5975Q_110908A**
Client ID: **ZZZZZ** Batch ID: **29365** TestNo: **8270SIM** Analysis Date: **9/8/2011** SeqNo: **775392**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 116.7 | 6.67 | 333.3 | 0 | 35 | 27.7 | 108 | 118.7 | 1.70 | 20 | |
| 2-Methylnaphthalene | 148.7 | 6.67 | 333.3 | 0 | 44.6 | 27.7 | 108 | 147.3 | 0.901 | 20 | |
| Acenaphthene | 124 | 6.67 | 333.3 | 0 | 37.2 | 33.7 | 111 | 123.3 | 0.539 | 20 | |
| Benzo(g,h,i)perylene | 146.7 | 6.67 | 333.3 | 2.667 | 43.2 | 15 | 128 | 154.7 | 5.31 | 20 | |
| Chrysene | 152 | 6.67 | 333.3 | 6 | 43.8 | 37.5 | 125 | 158.7 | 4.29 | 20 | |
| Naphthalene | 105.3 | 6.67 | 333.3 | 2 | 31 | 27.7 | 108 | 104 | 1.27 | 20 | |
| Phenanthrene | 134 | 6.67 | 333.3 | 2 | 39.6 | 20.2 | 139 | 138.7 | 3.42 | 20 | |
| Pyrene | 172 | 6.67 | 333.3 | 3.333 | 50.6 | 26.8 | 142 | 176 | 2.30 | 20 | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **CCB-29365** SampType: **CCB** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **9/7/2011** Run ID: **5975Q_110908A**
Client ID: **ZZZZZ** Batch ID: **29365** TestNo: **8270SIM** Analysis Date: **9/9/2011** SeqNo: **775756**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Methylnaphthalene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthylene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benz(a)anthracene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(a)pyrene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(b)fluoranthene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(k)fluoranthene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chrysene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluoranthene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluorene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Phenanthrene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Pyrene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 2-Fluorobiphenyl | 2923 | 0 | 6667 | 0 | 43.8 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 3169 | 0 | 6667 | 0 | 47.5 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 3668 | 0 | 6667 | 0 | 55 | 44.9 | 155 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_110908A**
Client ID: **ZZZZZ** Batch ID: **29365** TestNo: **8270SIM** Analysis Date: **9/8/2011** SeqNo: **775326**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 64.67 | 6.67 | 66.67 | 0 | 97 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 62.67 | 6.67 | 66.67 | 0 | 94 | 70 | 130 | 0 | 0 | | |
| Anthracene | 61.33 | 6.67 | 66.67 | 0 | 92 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 63.33 | 6.67 | 66.67 | 0 | 95 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 70 | 6.67 | 66.67 | 0 | 105 | 70 | 130 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_110908A**
Client ID: **ZZZZZ** Batch ID: **29365** TestNo: **8270SIM** Analysis Date: **9/8/2011** SeqNo: **775326**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzo(b)fluoranthene | 75.33 | 6.67 | 66.67 | 0 | 113 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 67.33 | 6.67 | 66.67 | 0 | 101 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 69.33 | 6.67 | 66.67 | 0 | 104 | 70 | 130 | 0 | 0 | | |
| Chrysene | 70 | 6.67 | 66.67 | 0 | 105 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 67.33 | 6.67 | 66.67 | 0 | 101 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 61.33 | 6.67 | 66.67 | 0 | 92 | 70 | 130 | 0 | 0 | | |
| Fluorene | 58.67 | 6.67 | 66.67 | 0 | 88 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 66.67 | 6.67 | 66.67 | 0 | 100 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 70.67 | 6.67 | 66.67 | 0 | 106 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 64.67 | 6.67 | 66.67 | 0 | 97 | 70 | 130 | 0 | 0 | | |
| Pyrene | 78.67 | 6.67 | 66.67 | 0 | 118 | 70 | 130 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_110908A**
Client ID: **ZZZZZ** Batch ID: **29365** TestNo: **8270SIM** Analysis Date: **9/9/2011** SeqNo: **775755**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 73.33 | 6.67 | 66.67 | 0 | 110 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 78.67 | 6.67 | 66.67 | 0 | 118 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 64.67 | 6.67 | 66.67 | 0 | 97 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 62.67 | 6.67 | 66.67 | 0 | 94 | 70 | 130 | 0 | 0 | | |
| Anthracene | 56 | 6.67 | 66.67 | 0 | 84 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 66 | 6.67 | 66.67 | 0 | 99 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 64.67 | 6.67 | 66.67 | 0 | 97 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 70 | 6.67 | 66.67 | 0 | 105 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 60.67 | 6.67 | 66.67 | 0 | 91 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 68.67 | 6.67 | 66.67 | 0 | 103 | 70 | 130 | 0 | 0 | | |
| Chrysene | 72 | 6.67 | 66.67 | 0 | 108 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 63.33 | 6.67 | 66.67 | 0 | 95 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 57.33 | 6.67 | 66.67 | 0 | 86 | 70 | 130 | 0 | 0 | | |
| Fluorene | 62 | 6.67 | 66.67 | 0 | 93 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 68 | 6.67 | 66.67 | 0 | 102 | 70 | 130 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109045
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_110908A**
Client ID: **ZZZZZ** Batch ID: **29365** TestNo: **8270SIM** Analysis Date: **9/9/2011** SeqNo: **775755**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | 68.67 | 6.67 | 66.67 | 0 | 103 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 64 | 6.67 | 66.67 | 0 | 96 | 70 | 130 | 0 | 0 | | |
| Pyrene | 80 | 6.67 | 66.67 | 0 | 120 | 70 | 130 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

# KEY TO FLAGS

Rev. May 12, 2010

| | |
|---|---|
| A | This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards |
| A1 | This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards. |
| A2 | This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard. |
| A3 | The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type. |
| A4 | The product appears to be aged or degraded diesel. |
| B | The blank exhibited a positive result great than the reporting limit for this compound. |
| CN | See Case Narrative. |
| D | Result is based from a dilution. |
| E | Result exceeds the calibration range for this compound. The result should be considered as estimate. |
| F | The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library. |
| G | Result may be biased high due to biogenic interferences. Clean up is recommended. |
| H | Sample was analyzed outside recommended holding time. |
| HT | At clients request, samples was analyzed outside of recommended holding time. |
| J | The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration. |
| K | Diesel result is biased high due to amount of Oil contained in the sample. |
| L | Diesel result is biased high due to amount of Gasoline contained in the sample. |
| M | Oil result is biased high due to amount of Diesel contained in the sample. |
| MC | Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant. |
| MI | Result is outside control limits due to matrix interference. |
| MSA | Value determined by Method of Standard Addition. |
| O | Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements. |
| Q | Detection levels elevated due to sample matrix. |
| R | RPD control limits were exceeded. |
| RF | Duplicate failed due to result being at or near the method-reporting limit. |
| RP | Matrix spike values exceed established QC limits; post digestion spike is in control. |
| S | Recovery is outside control limits. |
| SC | Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements. |
| * | The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit. |

# CHAIN OF CUSTODY RECORD

Page 1 of ___


## Specialty Analytical
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336


Contact Person/Project Manager: Christina Johnson
Company: MFA
Address: 7223 NE Hazel Dell Ave
Vancouver, WA
Phone: 360-433-0249 Fax: —
Project No. 0229.04.05 Project Name: Port of Camas
Project Site Location OR ___ WA X Other ___
Invoice To ___ P.O. No. ___

Collected By:
Signature
Printed: Christina Johnson

Signature
Printed

Turn Around Time
☑ Normal 5-7 Business Days
☐ Rush ___
Specify
**Rush Analyses Must Be Scheduled With The Lab In Advance**

**For Laboratory Use**
Lab Job No. 1109045
Shipped Via: Specialty
Air Bill No. ___
Temperature On Receipt 4 °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: NWTPH-HCID | NWTPH-Gx | NWTPH-Dx | PCPA-8 (WA) | PCBs (8082) | PAHs (8270c SIM) | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/6/11 | 8:55 | TP-1-3 | S | 6 | X | | ⊗ | ⊗ | X | X | | |
| | 9:45 | TP-2-3.5 | S | 5 | X | | | | X | X | potential waste oil follow-up | |
| | 10:45 | TP-3-3 | S | 6 | X | | | | X | X | | |
| | 11:15 | TP-4-3 | S | 6 | X | | | | X | X | | |
| | 13:15 | TP-5-8 | S | 6 | X | | ⊗ | X | X | X | | |
| | 13:05 | TP-5-16.5 | S | 6 | | | ⊗ | | | | | |
| | 15:00 | TP-6-8 | S | 6 | X | | ⊗ | | X | X | | |
| | 15:30 | TP-7-2 | S | 1 | | 1 | X | X | | | please analyze applicable GRO/DRO if TPH detection | |
| | 15:45 | TP-8-1.5 | S | 1 | | | X | X | | | | |
| | 16:05 | SS-1-1.5 | S | 1 | | | X | X | | | | |
| | 16:15 | SS-2-1.5 | S | 1 | | | X | X | | | | |
| | | | | | | | | | | | | |

| Relinquished By: | Date | Time | Received By: |
|---|---|---|---|
| Company: MFA | 9/6/11 | 15:30 | Company: Specialty |

| Relinquished By: | Date | Time | Received For Lab By: | Date | Time |
|---|---|---|---|---|---|
| Company: Specialty | 9/7/11 | 1410 | Nikki Bappes | 9/7/11 | 1410 |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Copies: White-Original Yellow-Project File Pink-Customer Copy

# Specialty Analytical

11711 SE Capps Road
Clackamas, OR 97015
(503) 607-1331
Fax (503) 607-1336


September 19, 2011

Christina Johnson
Maul, Foster & Alongi
7223 NE Hazel Dell Avenue
Suite B
Vancouver, WA 98665

TEL: (360) 694-2691
FAX: (360) 906-1958

RE: Port of Camas / 0229.04.01

Order No.: 1109059

Dear Christina Johnson:

Specialty Analytical received 2 samples on 9/8/2011 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Cindy Hillyard
Project Manager

Technical Review

# Specialty Analytical

**Date:** *19-Sep-11*

**CLIENT:** Maul, Foster & Alongi
**Project:** Port of Camas / 0229.04.01
**Lab Order:** 1109059

**Lab ID:** 1109059-01 **Collection Date:** 9/7/2011 9:00:00 AM
**Client Sample ID:** MW-6 **Matrix:** GROUNDWATER

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 0.0762 | | mg/L | 1 | 9/9/2011 |
| Lube Oil | ND | 0.190 | | mg/L | 1 | 9/9/2011 |
| Surr: o-Terphenyl | 75.0 | 50-150 | | %REC | 1 | 9/9/2011 |
| **NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | ND | 100 | | µg/L | 1 | 9/9/2011 |
| Surr: 4-Bromofluorobenzene | 85.5 | 50-150 | | %REC | 1 | 9/9/2011 |

**Lab ID:** 1109059-02 **Collection Date:** 9/7/2011 10:30:00 AM
**Client Sample ID:** MW-5 **Matrix:** GROUNDWATER

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 0.0762 | | mg/L | 1 | 9/9/2011 |
| Lube Oil | ND | 0.190 | | mg/L | 1 | 9/9/2011 |
| Surr: o-Terphenyl | 77.6 | 50-150 | | %REC | 1 | 9/9/2011 |
| **NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | ND | 100 | | µg/L | 1 | 9/9/2011 |
| Surr: 4-Bromofluorobenzene | 106 | 50-150 | | %REC | 1 | 9/9/2011 |

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109059
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDXLL_W**

| Sample ID: **MB-29372** | SampType: **MBLK** | TestCode: **NWTPHDXLL** | Units: **mg/L** | Prep Date: **9/8/2011** | Run ID: **GC-M_110909B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29372** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/9/2011** | SeqNo: **775989** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 0.0800 | | | | | | | | | |
| Lube Oil | ND | 0.200 | | | | | | | | | |
| Surr: o-Terphenyl | 0.1723 | 0 | 0.2 | 0 | 86.2 | 50 | 150 | 0 | 0 | | |

| Sample ID: **LCS-29372** | SampType: **LCS** | TestCode: **NWTPHDXLL** | Units: **mg/L** | Prep Date: **9/8/2011** | Run ID: **GC-M_110909B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29372** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/9/2011** | SeqNo: **775990** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 0.9174 | 0.0800 | 1 | 0 | 91.7 | 60.7 | 121 | 0 | 0 | | |
| Lube Oil | 0.916 | 0.200 | 1 | 0 | 91.6 | 64 | 126 | 0 | 0 | | |

| Sample ID: **LCSD-29372** | SampType: **LCSD** | TestCode: **NWTPHDXLL** | Units: **mg/L** | Prep Date: **9/8/2011** | Run ID: **GC-M_110909B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29372** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/9/2011** | SeqNo: **775991** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1.01 | 0.0800 | 1 | 0 | 101 | 60.7 | 121 | 0.9174 | 9.60 | 20 | |
| Lube Oil | 1.085 | 0.200 | 1 | 0 | 109 | 64 | 126 | 0.916 | 16.9 | 20 | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDXLL** | Units: **mg/L** | Prep Date: | Run ID: **GC-M_110909B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29372** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/9/2011** | SeqNo: **775988** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 6.45 | 0.0800 | 6.057 | 0 | 106 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 3.501 | 0.200 | 3.15 | 0 | 111 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDXLL** | Units: **mg/L** | Prep Date: | Run ID: **GC-M_110909B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29372** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/9/2011** | SeqNo: **776002** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109059
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDXLL_W**

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDXLL** Units: **mg/L** Prep Date: Run ID: **GC-M_110909B**
Client ID: **ZZZZZ** Batch ID: **29372** TestNo: **NWTPH-Dx** Analysis Date: **9/9/2011** SeqNo: **776002**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 8.037 | 0.0800 | 8.076 | 0 | 99.5 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 4.294 | 0.200 | 4.2 | 0 | 102 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109059
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHGX_W**

| Sample ID: **MB-29387** | SampType: **MBLK** | TestCode: **NWTPHGX_** | Units: **µg/L** | Prep Date: **9/9/2011** | Run ID: **GC-I_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29387** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/9/2011** | SeqNo: **775688** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | ND | 100 | | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 94.43 | 0 | 100 | 0 | 94.4 | 50 | 150 | 0 | 0 | | |

| Sample ID: **LCS-29387** | SampType: **LCS** | TestCode: **NWTPHGX_** | Units: **µg/L** | Prep Date: **9/9/2011** | Run ID: **GC-I_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29387** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/9/2011** | SeqNo: **775687** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 2330 | 100 | 2500 | 0 | 93.2 | 74.4 | 128 | 0 | 0 | | |

| Sample ID: **1109059-02DDUP** | SampType: **DUP** | TestCode: **NWTPHGX_** | Units: **µg/L** | Prep Date: **9/9/2011** | Run ID: **GC-I_110909A** |
|---|---|---|---|---|---|
| Client ID: **MW-5** | Batch ID: **29387** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/9/2011** | SeqNo: **775691** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | ND | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHGX_** | Units: **µg/L** | Prep Date: | Run ID: **GC-I_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29387** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/9/2011** | SeqNo: **775692** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 1679 | 100 | 2000 | 0 | 84 | 80 | 120 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

# KEY TO FLAGS

Rev. May 12, 2010

| | |
|---|---|
| A | This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards |
| A1 | This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards. |
| A2 | This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard. |
| A3 | The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type. |
| A4 | The product appears to be aged or degraded diesel. |
| B | The blank exhibited a positive result great than the reporting limit for this compound. |
| CN | See Case Narrative. |
| D | Result is based from a dilution. |
| E | Result exceeds the calibration range for this compound. The result should be considered as estimate. |
| F | The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library. |
| G | Result may be biased high due to biogenic interferences. Clean up is recommended. |
| H | Sample was analyzed outside recommended holding time. |
| HT | At clients request, samples was analyzed outside of recommended holding time. |
| J | The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration. |
| K | Diesel result is biased high due to amount of Oil contained in the sample. |
| L | Diesel result is biased high due to amount of Gasoline contained in the sample. |
| M | Oil result is biased high due to amount of Diesel contained in the sample. |
| MC | Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant. |
| MI | Result is outside control limits due to matrix interference. |
| MSA | Value determined by Method of Standard Addition. |
| O | Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements. |
| Q | Detection levels elevated due to sample matrix. |
| R | RPD control limits were exceeded. |
| RF | Duplicate failed due to result being at or near the method-reporting limit. |
| RP | Matrix spike values exceed established QC limits; post digestion spike is in control. |
| S | Recovery is outside control limits. |
| SC | Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements. |
| * | The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit. |

# CHAIN OF CUSTODY RECORD

Page 1 of 1


## Specialty Analytical
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336


Contact Person/Project Manager: Christina Johnson
Company: MFA
Address: 2001 NW 19th Ave Ste 200
Portland, OR 97209
Phone: _____ Fax: _____
Project No. 0229.04.01 Project Name: _____
Project Site Location OR: _____ WA: X Other: _____
Invoice To: _____ P.O. No.: _____

Collected By:
Signature: _____
Printed: Meaghan Gallagher
Signature: _____
Printed: _____

Turn Around Time
☒ Normal 5-7 Business Days
☐ Rush _____
Specify
**Rush Analyses Must Be Scheduled With The Lab In Advance**

For Laboratory Use
Lab Job No. 1109[illegible]59
Shipped Via: Specialty
Air Bill No. _____
Temperature On Receipt 5 °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: TPH (Gx, Dx) | PAH * | PCB * | SVOC * | Metals (dissolved) * | VOC * | | | | | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/7/11 | 9:00 | MW-6 | W | 9 | X | X | X | X | X | X | | | | | Follow up | |
| 9/7/11 | 10:30 | MW-5 | ↓ | ↓ | X | X | X | X | X | X | 9/9/11 | | | | preservation on missing 5 ½ | |
| | | | | | | | | | | | | | | | | |
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| Relinquished By: | Date | Time | Received By: | Relinquished By: | Date | Time |
|---|---|---|---|---|---|---|
| Company: MFA | 9/8/11 | 1040 | Company: Specialty | Company: Specialty | 9/8/11 | 1355 |
| | | | | Received For Lab By: Nikki Rippes | Date 9/8/11 | Time 1355 |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Copies: White-Original Yellow-Project File Pink-Customer Copy

# Specialty Analytical

11711 SE Capps Road
Clackamas, OR 97015
(503) 607-1331
Fax (503) 607-1336


October 06, 2011

Christina Johnson
Maul, Foster & Alongi
7223 NE Hazel Dell Avenue
Suite B
Vancouver, WA 98665
TEL: (360) 694-2691
FAX: (360) 906-1958

RE: Port of Camas / 0229.04.01
Dear Christina Johnson: Order No.: 1109060

Specialty Analytical received 4 samples on 9/8/2011 for the analyses presented in the following report.

REVISED REPORT VERSION 1 . Please see case narrative for information on revision.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

Cindy Hillyard
Project Manager

Technical Review

## Specialty Analytical

**Date:** *06-Oct-11*

**CLIENT:** Maul, Foster & Alongi
**Project:** Port of Camas / 0229.04.01
**Lab Order:** 1109060

# CASE NARRATIVE

Report Revision 1

This report includes the original data with the addition of Total Zinc by EPA 6010, 2-Methylnaphthalene by PAH GC/MS and 3&4-Methylpenol by EPA 8270 on all samples, which was missed during log in. The report is also being reported to the lab MDL's to obtain lower reporting values.

# Specialty Analytical

**Date:** *06-Oct-11*

**CLIENT:** Maul, Foster & Alongi
**Client Sample ID:** Sed-01
**Lab Order:** 1109060
**Collection Date:** 9/7/2011 12:45:00 PM
**Project:** Port of Camas / 0229.04.01
**Lab ID:** 1109060-01
**Matrix:** SEDIMENT

| Analyses | Result | Qual | MDL | Limit | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** | |
| Arsenic | 3.12 | | 0.318 | 1.59 | mg/Kg-dry | 1 | 9/9/2011 7:11:21 PM |
| Cadmium | ND | | 0.0318 | 0.0794 | mg/Kg-dry | 1 | 9/9/2011 7:11:21 PM |
| Chromium | 6.45 | | 0.159 | 0.397 | mg/Kg-dry | 1 | 9/9/2011 7:11:21 PM |
| Copper | 3.16 | | 0.318 | 0.794 | mg/Kg-dry | 1 | 9/9/2011 7:11:21 PM |
| Lead | 5.16 | | 0.556 | 1.59 | mg/Kg-dry | 1 | 9/9/2011 7:11:21 PM |
| Nickel | 4.16 | | 0.0794 | 0.397 | mg/Kg-dry | 1 | 9/9/2011 7:11:21 PM |
| Zinc | 23.4 | | 0.0477 | 0.794 | mg/Kg-dry | 1 | 9/9/2011 7:11:21 PM |
| **TOTAL METALS BY ICP/MS** | | **SW6020** | | | | Analyst: **zau** | |
| Antimony | 17 | J | 4.48 | 107 | µg/Kg-dry | 1 | 9/16/2011 1:19:00 PM |
| Silver | 54.0 | | 1.07 | 21.3 | µg/Kg-dry | 1 | 9/16/2011 1:19:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** | |
| Aroclor 1016 | ND | | 0.139 | 0.455 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | | 0.139 | 0.455 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | | 0.139 | 0.455 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | | 0.139 | 0.455 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | | 0.139 | 0.455 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1254 | ND | | 0.139 | 0.455 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | ND | | 0.139 | 0.455 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | | 0.139 | 0.455 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | | 0.139 | 0.455 | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 75.3 | | 0 | 56.5-130 | %REC | 1 | 9/12/2011 |
| **SEMIVOLATILE ORGANICS BY GC/MS** | | **SW8270D** | | | | Analyst: **bda** | |
| 1,2,4-Trichlorobenzene | ND | | 11.1 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| 1,2-Dichlorobenzene | ND | | 25.4 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| 1,4-Dichlorobenzene | ND | | 26.7 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| 2,4-Dimethylphenol | ND | | 11.6 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| 2-Methylphenol | ND | | 15.1 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| 3-&4-Methylphenol | ND | | 15.6 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| Benzoic Acid | ND | | 43.1 | 911 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| Benzyl Alcohol | ND | | 42.0 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| Benzyl butyl phthalate | ND | | 11.1 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| Bis(2-ethylhexyl)phthalate | ND | | 18.1 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| Di-n-butyl phthalate | ND | | 32.7 | 68.3 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| Di-n-octyl phthalate | ND | | 13.0 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| Dibenzofuran | ND | | 9.52 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| Diethyl phthalate | ND | | 14.0 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| Dimethyl phthalate | ND | | 13.7 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| Hexachlorobenzene | ND | | 11.4 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| Hexachlorobutadiene | ND | | 16.0 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |

**CLIENT:** Maul, Foster & Alongi
**Lab Order:** 1109060
**Project:** Port of Camas / 0229.04.01
**Lab ID:** 1109060-01

**Client Sample ID:** Sed-01
**Collection Date:** 9/7/2011 12:45:00 PM
**Matrix:** SEDIMENT

| Analyses | Result | Qual | MDL | Limit | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **SEMIVOLATILE ORGANICS BY GC/MS** | | **SW8270D** | | | | Analyst: **bda** | |
| Hexachloroethane | ND | | 26.0 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| N-Nitrosodiphenylamine | ND | | 7.30 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| Pentachlorophenol | ND | | 49.6 | 68.3 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| Phenol | ND | | 15.3 | 45.5 | µg/Kg-dry | 1 | 9/22/2011 11:20:00 A |
| Surr: 2,4,6-Tribromophenol | 27.4 | S,MI | 0 | 57.8-119 | %REC | 1 | 9/22/2011 11:20:00 A |
| Surr: 2-Fluorobiphenyl | 42.4 | S,MI | 0 | 52.6-93.2 | %REC | 1 | 9/22/2011 11:20:00 A |
| Surr: 2-Fluorophenol | 36.2 | S,MI | 0 | 40.7-111 | %REC | 1 | 9/22/2011 11:20:00 A |
| Surr: 4-Terphenyl-d14 | 66.1 | | 0 | 49.8-118 | %REC | 1 | 9/22/2011 11:20:00 A |
| Surr: Nitrobenzene-d5 | 33.5 | S,MI | 0 | 44.8-103 | %REC | 1 | 9/22/2011 11:20:00 A |
| Surr: Phenol-d6 | 30.8 | S,MI | 0 | 47.5-117 | %REC | 1 | 9/22/2011 11:20:00 A |
| **PARTICLE SIZE DISTRIBUTION** | | **D422** | | | | Analyst: **sub** | |
| Particle Size | See attached report | | 0 | | | 1 | 10/3/2011 |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** | |
| Mercury | 0.0041 | J | 0.00110 | 0.0132 | mg/Kg-dry | 1 | 9/12/2011 |
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** | |
| Diesel | ND | | 8.20 | 20.5 | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | ND | | 23.2 | 68.3 | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 90.3 | | 0 | 50-150 | %REC | 1 | 9/13/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** | |
| 2-Methylnaphthalene | ND | | 1.44 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Acenaphthene | ND | | 1.59 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Acenaphthylene | ND | | 0.997 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Anthracene | 2.7 | J | 0.272 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Benz(a)anthracene | 4.6 | J | 1.06 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Benzo(a)pyrene | ND | | 0.702 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Benzo(b)fluoranthene | 5.5 | J | 1.81 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Benzo(g,h,i)perylene | 5.5 | J | 0.951 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Benzo(k)fluoranthene | 2.7 | J | 0.518 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Chrysene | 5.5 | J | 0.929 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Dibenz(a,h)anthracene | ND | | 0.877 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Fluoranthene | 4.6 | J | 0.415 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Fluorene | ND | | 0.381 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Indeno(1,2,3-cd)pyrene | ND | | 0.940 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Naphthalene | 1.8 | J | 1.53 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Phenanthrene | ND | | 0.369 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Pyrene | 3.6 | J | 0.952 | 9.11 | µg/Kg-dry | 1 | 9/14/2011 9:25:00 PM |
| Surr: 2-Fluorobiphenyl | 34.2 | S | 0 | 42.6-128 | %REC | 1 | 9/14/2011 9:25:00 PM |
| Surr: Nitrobenzene-d5 | 28.7 | | 0 | 21.7-155 | %REC | 1 | 9/14/2011 9:25:00 PM |

## Specialty Analytical

**Date:** *06-Oct-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | Sed-01 |
| **Lab Order:** | 1109060 | **Collection Date:** | 9/7/2011 12:45:00 PM |
| **Project:** | Port of Camas / 0229.04.01 | | |
| **Lab ID:** | 1109060-01 | **Matrix:** | SEDIMENT |

| Analyses | Result | Qual | MDL | Limit | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** | |
| Surr: p-Terphenyl-d14 | 80.6 | | 0 | 44.9-155 | %REC | 1 | 9/14/2011 9:25:00 PM |
| **TOTAL SOLIDS** | | **A2216** | | | | Analyst: **at** | |
| Total Solids | 79.0 | | 0 | 0.100 | wt% | 1 | 9/9/2011 |
| **ORGANIC CARBON, TOTAL** | | **SW9060** | | | | Analyst: **jrp** | |
| Total Organic Carbon | 1180 | | 11.0 | 100 | mg/Kg-dry | 1 | 9/15/2011 |

# Specialty Analytical

**Date:** *06-Oct-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | Sed-02 |
| **Lab Order:** | 1109060 | **Collection Date:** | 9/7/2011 12:30:00 PM |
| **Project:** | Port of Camas / 0229.04.01 | | |
| **Lab ID:** | 1109060-02 | **Matrix:** | SEDIMENT |

| Analyses | Result | Qual | MDL | Limit | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** | |
| Arsenic | 5.75 | | 0.434 | 2.17 | mg/Kg-dry | 1 | 9/9/2011 7:16:18 PM |
| Cadmium | 0.271 | | 0.0434 | 0.108 | mg/Kg-dry | 1 | 9/9/2011 7:16:18 PM |
| Chromium | 13.9 | | 0.217 | 0.542 | mg/Kg-dry | 1 | 9/9/2011 7:16:18 PM |
| Copper | 14.1 | | 0.434 | 1.08 | mg/Kg-dry | 1 | 9/9/2011 7:16:18 PM |
| Lead | 5.46 | | 0.759 | 2.17 | mg/Kg-dry | 1 | 9/9/2011 7:16:18 PM |
| Nickel | 8.70 | | 0.108 | 0.542 | mg/Kg-dry | 1 | 9/9/2011 7:16:18 PM |
| Zinc | 109 | | 0.0651 | 1.08 | mg/Kg-dry | 1 | 9/9/2011 7:16:18 PM |
| **TOTAL METALS BY ICP/MS** | | **SW6020** | | | | Analyst: **zau** | |
| Antimony | 145 | | 4.90 | 117 | µg/Kg-dry | 1 | 9/16/2011 1:26:00 PM |
| Silver | 129 | | 1.17 | 23.3 | µg/Kg-dry | 1 | 9/16/2011 1:26:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** | |
| Aroclor 1016 | ND | | 0.190 | 0.621 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | | 0.190 | 0.621 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | | 0.190 | 0.621 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | | 0.190 | 0.621 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | | 0.190 | 0.621 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1254 | ND | | 0.190 | 0.621 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | ND | | 0.190 | 0.621 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | | 0.190 | 0.621 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | | 0.190 | 0.621 | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 79.9 | | 0 | 56.5-130 | %REC | 1 | 9/12/2011 |
| **SEMIVOLATILE ORGANICS BY GC/MS** | | **SW8270D** | | | | Analyst: **bda** | |
| 1,2,4-Trichlorobenzene | ND | | 15.1 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| 1,2-Dichlorobenzene | ND | | 34.7 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| 1,4-Dichlorobenzene | ND | | 36.5 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| 2,4-Dimethylphenol | ND | | 15.9 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| 2-Methylphenol | ND | | 20.6 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| 3-&4-Methylphenol | 85.8 | | 21.4 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| Benzoic Acid | ND | | 58.8 | 1240 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| Benzyl Alcohol | ND | | 57.4 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| Benzyl butyl phthalate | ND | | 15.2 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| Bis(2-ethylhexyl)phthalate | ND | | 24.7 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| Di-n-butyl phthalate | ND | | 44.7 | 93.3 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| Di-n-octyl phthalate | ND | | 17.8 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| Dibenzofuran | ND | | 13.0 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| Diethyl phthalate | ND | | 19.1 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| Dimethyl phthalate | ND | | 18.7 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| Hexachlorobenzene | ND | | 15.5 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| Hexachlorobutadiene | ND | | 21.9 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |

# Specialty Analytical

**Date:** *06-Oct-11*

**CLIENT:** Maul, Foster & Alongi
**Client Sample ID:** Sed-02
**Lab Order:** 1109060
**Collection Date:** 9/7/2011 12:30:00 PM
**Project:** Port of Camas / 0229.04.01
**Lab ID:** 1109060-02
**Matrix:** SEDIMENT

| Analyses | Result | Qual | MDL | Limit | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **SEMIVOLATILE ORGANICS BY GC/MS** | | **SW8270D** | | | | Analyst: **bda** | |
| Hexachloroethane | ND | | 35.5 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| N-Nitrosodiphenylamine | ND | | 9.96 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| Pentachlorophenol | ND | | 67.8 | 93.3 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| Phenol | ND | | 20.9 | 62.1 | µg/Kg-dry | 1 | 9/22/2011 12:40:00 P |
| Surr: 2,4,6-Tribromophenol | 88.4 | | 0 | 57.8-119 | %REC | 1 | 9/22/2011 12:40:00 P |
| Surr: 2-Fluorobiphenyl | 80.8 | | 0 | 52.6-93.2 | %REC | 1 | 9/22/2011 12:40:00 P |
| Surr: 2-Fluorophenol | 58.1 | | 0 | 40.7-111 | %REC | 1 | 9/22/2011 12:40:00 P |
| Surr: 4-Terphenyl-d14 | 121 | S | 0 | 49.8-118 | %REC | 1 | 9/22/2011 12:40:00 P |
| Surr: Nitrobenzene-d5 | 50.3 | | 0 | 44.8-103 | %REC | 1 | 9/22/2011 12:40:00 P |
| Surr: Phenol-d6 | 56.5 | | 0 | 47.5-117 | %REC | 1 | 9/22/2011 12:40:00 P |
| **PARTICLE SIZE DISTRIBUTION** | | **D422** | | | | Analyst: **sub** | |
| Particle Size | See attached report | | 0 | | | 1 | 10/3/2011 |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** | |
| Mercury | 0.0384 | | 0.000979 | 0.0117 | mg/Kg-dry | 1 | 9/12/2011 |
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** | |
| Diesel | 117 | A1 | 11.2 | 28.0 | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | 258 | A2 | 31.7 | 93.3 | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 93.9 | | 0 | 50-150 | %REC | 1 | 9/13/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** | |
| 2-Methylnaphthalene | ND | | 1.97 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Acenaphthene | 5.0 | J | 2.17 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Acenaphthylene | ND | | 1.36 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Anthracene | 5.0 | J | 0.371 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Benz(a)anthracene | 11 | J | 1.45 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Benzo(a)pyrene | 14.9 | | 0.959 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Benzo(b)fluoranthene | 18.7 | | 2.47 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Benzo(g,h,i)perylene | 12.4 | | 1.30 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Benzo(k)fluoranthene | 11 | J | 0.707 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Chrysene | 18.7 | | 1.27 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Dibenz(a,h)anthracene | ND | | 1.20 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Fluoranthene | 26.1 | | 0.567 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Fluorene | 6.2 | J | 0.521 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Indeno(1,2,3-cd)pyrene | 8.7 | J | 1.28 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Naphthalene | 7.5 | J | 2.10 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Phenanthrene | 18.7 | | 0.504 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Pyrene | 29.9 | | 1.30 | 12.4 | µg/Kg-dry | 1 | 9/14/2011 9:51:00 PM |
| Surr: 2-Fluorobiphenyl | 58.7 | | 0 | 42.6-128 | %REC | 1 | 9/14/2011 9:51:00 PM |
| Surr: Nitrobenzene-d5 | 56.9 | | 0 | 21.7-155 | %REC | 1 | 9/14/2011 9:51:00 PM |

## Specialty Analytical

**Date:** *06-Oct-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | Sed-02 |
| **Lab Order:** | 1109060 | **Collection Date:** | 9/7/2011 12:30:00 PM |
| **Project:** | Port of Camas / 0229.04.01 | | |
| **Lab ID:** | 1109060-02 | **Matrix:** | SEDIMENT |

| Analyses | Result | Qual | MDL | Limit | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** | |
| Surr: p-Terphenyl-d14 | 90.5 | | 0 | 44.9-155 | %REC | 1 | 9/14/2011 9:51:00 PM |
| **TOTAL SOLIDS** | | **A2216** | | | | Analyst: **at** | |
| Total Solids | 59.5 | | 0 | 0.100 | wt% | 1 | 9/9/2011 |
| **ORGANIC CARBON, TOTAL** | | **SW9060** | | | | Analyst: **jrp** | |
| Total Organic Carbon | 5980 | | 11.0 | 100 | mg/Kg-dry | 1 | 9/15/2011 |

# Specialty Analytical

**Date:** *06-Oct-11*

**CLIENT:** Maul, Foster & Alongi
**Client Sample ID:** Sed-03
**Lab Order:** 1109060
**Collection Date:** 9/7/2011 11:45:00 AM
**Project:** Port of Camas / 0229.04.01
**Lab ID:** 1109060-03
**Matrix:** SEDIMENT

| Analyses | Result | Qual | MDL | Limit | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** | |
| Arsenic | 6.15 | | 0.473 | 2.37 | mg/Kg-dry | 1 | 9/9/2011 7:21:15 PM |
| Cadmium | 0.130 | | 0.0473 | 0.118 | mg/Kg-dry | 1 | 9/9/2011 7:21:15 PM |
| Chromium | 12.3 | | 0.237 | 0.591 | mg/Kg-dry | 1 | 9/9/2011 7:21:15 PM |
| Copper | 9.37 | | 0.473 | 1.18 | mg/Kg-dry | 1 | 9/9/2011 7:21:15 PM |
| Lead | 4.73 | | 0.828 | 2.37 | mg/Kg-dry | 1 | 9/9/2011 7:21:15 PM |
| Nickel | 8.01 | | 0.118 | 0.591 | mg/Kg-dry | 1 | 9/9/2011 7:21:15 PM |
| Zinc | 81.1 | | 0.0710 | 1.18 | mg/Kg-dry | 1 | 9/9/2011 7:21:15 PM |
| **TOTAL METALS BY ICP/MS** | | **SW6020** | | | | Analyst: **zau** | |
| Antimony | 49 | J | 4.35 | 103 | µg/Kg-dry | 1 | 9/16/2011 1:33:00 PM |
| Silver | 97.1 | | 1.03 | 20.7 | µg/Kg-dry | 1 | 9/16/2011 1:33:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** | |
| Aroclor 1016 | ND | | 0.169 | 0.551 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | | 0.169 | 0.551 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | | 0.169 | 0.551 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | | 0.169 | 0.551 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | | 0.169 | 0.551 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1254 | ND | | 0.169 | 0.551 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | ND | | 0.169 | 0.551 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | | 0.169 | 0.551 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | | 0.169 | 0.551 | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 74.5 | | 0 | 56.5-130 | %REC | 1 | 9/12/2011 |
| **SEMIVOLATILE ORGANICS BY GC/MS** | | **SW8270D** | | | | Analyst: **bda** | |
| 1,2,4-Trichlorobenzene | ND | | 13.4 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| 1,2-Dichlorobenzene | ND | | 30.8 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| 1,4-Dichlorobenzene | ND | | 32.4 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| 2,4-Dimethylphenol | ND | | 14.1 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| 2-Methylphenol | ND | | 18.3 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| 3-&4-Methylphenol | ND | | 19.0 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| Benzoic Acid | ND | | 52.2 | 1100 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| Benzyl Alcohol | ND | | 51.0 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| Benzyl butyl phthalate | ND | | 13.5 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| Bis(2-ethylhexyl)phthalate | ND | | 21.9 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| Di-n-butyl phthalate | ND | | 39.7 | 82.8 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| Di-n-octyl phthalate | ND | | 15.8 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| Dibenzofuran | ND | | 11.5 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| Diethyl phthalate | ND | | 17.0 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| Dimethyl phthalate | ND | | 16.6 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| Hexachlorobenzene | ND | | 13.8 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| Hexachlorobutadiene | ND | | 19.4 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |

# Specialty Analytical

**Date:** *06-Oct-11*

**CLIENT:** Maul, Foster & Alongi
**Lab Order:** 1109060
**Project:** Port of Camas / 0229.04.01
**Lab ID:** 1109060-03

**Client Sample ID:** Sed-03
**Collection Date:** 9/7/2011 11:45:00 AM
**Matrix:** SEDIMENT

| Analyses | Result | Qual | MDL | Limit | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **SEMIVOLATILE ORGANICS BY GC/MS** | | **SW8270D** | | | | Analyst: **bda** | |
| Hexachloroethane | ND | | 31.5 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| N-Nitrosodiphenylamine | ND | | 8.84 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| Pentachlorophenol | ND | | 60.1 | 82.8 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| Phenol | ND | | 18.5 | 55.1 | µg/Kg-dry | 1 | 9/22/2011 11:47:00 A |
| Surr: 2,4,6-Tribromophenol | 55.4 | S,MI | 0 | 57.8-119 | %REC | 1 | 9/22/2011 11:47:00 A |
| Surr: 2-Fluorobiphenyl | 92.9 | | 0 | 52.6-93.2 | %REC | 1 | 9/22/2011 11:47:00 A |
| Surr: 2-Fluorophenol | 51.5 | | 0 | 40.7-111 | %REC | 1 | 9/22/2011 11:47:00 A |
| Surr: 4-Terphenyl-d14 | 118 | S | 0 | 49.8-118 | %REC | 1 | 9/22/2011 11:47:00 A |
| Surr: Nitrobenzene-d5 | 61.4 | | 0 | 44.8-103 | %REC | 1 | 9/22/2011 11:47:00 A |
| Surr: Phenol-d6 | 55.6 | | 0 | 47.5-117 | %REC | 1 | 9/22/2011 11:47:00 A |
| **PARTICLE SIZE DISTRIBUTION** | | **D422** | | | | Analyst: **sub** | |
| Particle Size | See attached report | | 0 | | | 1 | 10/3/2011 |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** | |
| Mercury | 0.0445 | | 0.000790 | 0.00943 | mg/Kg-dry | 1 | 9/12/2011 |
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** | |
| Diesel | ND | | 9.93 | 24.8 | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | 82 | J | 28.1 | 82.8 | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 91.5 | | 0 | 50-150 | %REC | 1 | 9/13/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** | |
| 2-Methylnaphthalene | ND | | 1.75 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Acenaphthene | ND | | 1.93 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Acenaphthylene | 2.2 | J | 1.21 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Anthracene | 3.3 | J | 0.329 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Benz(a)anthracene | 11.0 | | 1.29 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Benzo(a)pyrene | 12.1 | | 0.851 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Benzo(b)fluoranthene | 15.5 | | 2.20 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Benzo(g,h,i)perylene | ND | | 1.15 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Benzo(k)fluoranthene | 6.6 | J | 0.627 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Chrysene | 11.0 | | 1.13 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Dibenz(a,h)anthracene | ND | | 1.06 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Fluoranthene | 17.7 | | 0.503 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Fluorene | ND | | 0.462 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Indeno(1,2,3-cd)pyrene | 6.6 | J | 1.14 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Naphthalene | 3.3 | J | 1.86 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Phenanthrene | 11.0 | | 0.447 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Pyrene | 16.6 | | 1.15 | 11.0 | µg/Kg-dry | 1 | 9/14/2011 10:18:00 P |
| Surr: 2-Fluorobiphenyl | 42.2 | S | 0 | 42.6-128 | %REC | 1 | 9/14/2011 10:18:00 P |
| Surr: Nitrobenzene-d5 | 41.3 | | 0 | 21.7-155 | %REC | 1 | 9/14/2011 10:18:00 P |

## Specialty Analytical

**Date:** *06-Oct-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | Sed-03 |
| **Lab Order:** | 1109060 | **Collection Date:** | 9/7/2011 11:45:00 AM |
| **Project:** | Port of Camas / 0229.04.01 | | |
| **Lab ID:** | 1109060-03 | **Matrix:** | SEDIMENT |

| Analyses | Result | Qual | MDL | Limit | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** | |
| Surr: p-Terphenyl-d14 | 81.8 | | 0 | 44.9-155 | %REC | 1 | 9/14/2011 10:18:00 P |
| **TOTAL SOLIDS** | | **A2216** | | | | Analyst: **at** | |
| Total Solids | 57.6 | | 0 | 0.100 | wt% | 1 | 9/9/2011 |
| **ORGANIC CARBON, TOTAL** | | **SW9060** | | | | Analyst: **jrp** | |
| Total Organic Carbon | 4710 | | 11.0 | 100 | mg/Kg-dry | 1 | 9/15/2011 |

# Specialty Analytical

**Date:** *06-Oct-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | Sed-04 |
| **Lab Order:** | 1109060 | **Collection Date:** | 9/7/2011 11:30:00 AM |
| **Project:** | Port of Camas / 0229.04.01 | | |
| **Lab ID:** | 1109060-04 | **Matrix:** | SEDIMENT |

| Analyses | Result | Qual | MDL | Limit | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** | |
| Arsenic | 5.14 | | 0.479 | 2.40 | mg/Kg-dry | 1 | 9/9/2011 7:26:13 PM |
| Cadmium | 0.383 | | 0.0479 | 0.120 | mg/Kg-dry | 1 | 9/9/2011 7:26:13 PM |
| Chromium | 15.1 | | 0.240 | 0.599 | mg/Kg-dry | 1 | 9/9/2011 7:26:13 PM |
| Copper | 16.0 | | 0.479 | 1.20 | mg/Kg-dry | 1 | 9/9/2011 7:26:13 PM |
| Lead | 8.94 | | 0.839 | 2.40 | mg/Kg-dry | 1 | 9/9/2011 7:26:13 PM |
| Nickel | 10.4 | | 0.120 | 0.599 | mg/Kg-dry | 1 | 9/9/2011 7:26:13 PM |
| Zinc | 99.8 | | 0.0719 | 1.20 | mg/Kg-dry | 1 | 9/9/2011 7:26:13 PM |
| **TOTAL METALS BY ICP/MS** | | **SW6020** | | | | Analyst: **zau** | |
| Antimony | 153 | | 3.68 | 87.6 | µg/Kg-dry | 1 | 9/16/2011 12:53:00 P |
| Silver | 160 | | 0.876 | 17.5 | µg/Kg-dry | 1 | 9/16/2011 12:53:00 P |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** | |
| Aroclor 1016 | ND | | 0.186 | 0.607 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | | 0.186 | 0.607 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | | 0.186 | 0.607 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | | 0.186 | 0.607 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | | 0.186 | 0.607 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1254 | ND | | 0.186 | 0.607 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | ND | | 0.186 | 0.607 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | | 0.186 | 0.607 | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | | 0.186 | 0.607 | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 51.0 | S,MI | 0 | 56.5-130 | %REC | 1 | 9/12/2011 |
| **SEMIVOLATILE ORGANICS BY GC/MS** | | **SW8270D** | | | | Analyst: **bda** | |
| 1,2,4-Trichlorobenzene | ND | | 14.8 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| 1,2-Dichlorobenzene | ND | | 33.9 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| 1,4-Dichlorobenzene | ND | | 35.6 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| 2,4-Dimethylphenol | ND | | 15.5 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| 2-Methylphenol | ND | | 20.1 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| 3-&4-Methylphenol | ND | | 20.9 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| Benzoic Acid | ND | | 57.5 | 1210 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| Benzyl Alcohol | ND | | 56.1 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| Benzyl butyl phthalate | ND | | 14.8 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| Bis(2-ethylhexyl)phthalate | ND | | 24.1 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| Di-n-butyl phthalate | ND | | 43.7 | 91.1 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| Di-n-octyl phthalate | ND | | 17.4 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| Dibenzofuran | ND | | 12.7 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| Diethyl phthalate | ND | | 18.7 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| Dimethyl phthalate | ND | | 18.3 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| Hexachlorobenzene | ND | | 15.2 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| Hexachlorobutadiene | ND | | 21.4 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |

# Specialty Analytical

**Date:** *06-Oct-11*

**CLIENT:** Maul, Foster & Alongi
**Lab Order:** 1109060
**Project:** Port of Camas / 0229.04.01
**Lab ID:** 1109060-04

**Client Sample ID:** Sed-04
**Collection Date:** 9/7/2011 11:30:00 AM
**Matrix:** SEDIMENT

| Analyses | Result | Qual | MDL | Limit | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **SEMIVOLATILE ORGANICS BY GC/MS** | | **SW8270D** | | | | Analyst: **bda** | |
| Hexachloroethane | ND | | 34.6 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| N-Nitrosodiphenylamine | ND | | 9.73 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| Pentachlorophenol | ND | | 66.2 | 91.1 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| Phenol | ND | | 20.4 | 60.7 | µg/Kg-dry | 1 | 9/22/2011 12:13:00 P |
| Surr: 2,4,6-Tribromophenol | 65.2 | | 0 | 57.8-119 | %REC | 1 | 9/22/2011 12:13:00 P |
| Surr: 2-Fluorobiphenyl | 79.7 | | 0 | 52.6-93.2 | %REC | 1 | 9/22/2011 12:13:00 P |
| Surr: 2-Fluorophenol | 44.8 | | 0 | 40.7-111 | %REC | 1 | 9/22/2011 12:13:00 P |
| Surr: 4-Terphenyl-d14 | 115 | | 0 | 49.8-118 | %REC | 1 | 9/22/2011 12:13:00 P |
| Surr: Nitrobenzene-d5 | 58.3 | | 0 | 44.8-103 | %REC | 1 | 9/22/2011 12:13:00 P |
| Surr: Phenol-d6 | 55.3 | | 0 | 47.5-117 | %REC | 1 | 9/22/2011 12:13:00 P |
| **PARTICLE SIZE DISTRIBUTION** | | **D422** | | | | Analyst: **sub** | |
| Particle Size | See attached report | | 0 | | | 1 | 10/3/2011 |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** | |
| Mercury | 0.0314 | | 0.000890 | 0.0106 | mg/Kg-dry | 1 | 9/12/2011 |
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** | |
| Diesel | ND | | 10.9 | 27.3 | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | 72 | J | 31.0 | 91.1 | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 84.3 | | 0 | 50-150 | %REC | 1 | 9/13/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** | |
| 2-Methylnaphthalene | ND | | 1.92 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Acenaphthene | ND | | 2.12 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Acenaphthylene | ND | | 1.33 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Anthracene | 1.2 | J | 0.362 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Benz(a)anthracene | 8.5 | J | 1.42 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Benzo(a)pyrene | 8.5 | J | 0.936 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Benzo(b)fluoranthene | 12.1 | | 2.42 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Benzo(g,h,i)perylene | 6.1 | J | 1.27 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Benzo(k)fluoranthene | 4.9 | J | 0.690 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Chrysene | 8.5 | J | 1.24 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Dibenz(a,h)anthracene | ND | | 1.17 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Fluoranthene | 11 | J | 0.554 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Fluorene | ND | | 0.508 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Indeno(1,2,3-cd)pyrene | 4.9 | J | 1.25 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Naphthalene | 3.6 | J | 2.05 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Phenanthrene | 6.1 | J | 0.492 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Pyrene | 12.1 | | 1.27 | 12.1 | µg/Kg-dry | 1 | 9/14/2011 10:44:00 P |
| Surr: 2-Fluorobiphenyl | 34.7 | S | 0 | 42.6-128 | %REC | 1 | 9/14/2011 10:44:00 P |
| Surr: Nitrobenzene-d5 | 41.1 | | 0 | 21.7-155 | %REC | 1 | 9/14/2011 10:44:00 P |

## Specialty Analytical

**Date:** *06-Oct-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | Sed-04 |
| **Lab Order:** | 1109060 | **Collection Date:** | 9/7/2011 11:30:00 AM |
| **Project:** | Port of Camas / 0229.04.01 | | |
| **Lab ID:** | 1109060-04 | **Matrix:** | SEDIMENT |

| Analyses | Result | Qual | MDL | Limit | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** | |
| Surr: p-Terphenyl-d14 | 77.1 | | 0 | 44.9-155 | %REC | 1 | 9/14/2011 10:44:00 P |
| **TOTAL SOLIDS** | | **A2216** | | | | Analyst: **at** | |
| Total Solids | 57.3 | | 0 | 0.100 | wt% | 1 | 9/9/2011 |
| **ORGANIC CARBON, TOTAL** | | **SW9060** | | | | Analyst: **jrp** | |
| Total Organic Carbon | 5100 | | 11.0 | 100 | mg/Kg-dry | 1 | 9/15/2011 |

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **MBLK-29376** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775708** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ND | 2.00 | | | | | | | | | |

| Sample ID: **MBLK-29376** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/9/2011** | Run ID: **TJA IRIS_110909D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775821** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 2.00 | | | | | | | | | |
| Barium | ND | 1.00 | | | | | | | | | |
| Cadmium | ND | 0.100 | | | | | | | | | |
| Chromium | ND | 0.500 | | | | | | | | | |
| Copper | ND | 1.00 | | | | | | | | | |
| Lead | ND | 2.00 | | | | | | | | | |
| Nickel | ND | 0.500 | | | | | | | | | |
| Selenium | ND | 2.00 | | | | | | | | | |
| Silver | 0.66 | 2.00 | | | | | | | | | J |
| Zinc | ND | 1.00 | | | | | | | | | |

| Sample ID: **LCS-29376** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775709** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 87.87 | 2.00 | 100 | 0 | 87.9 | 84.9 | 109 | 0 | 0 | | |

| Sample ID: **LCS-29376** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775822** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 95.48 | 2.00 | 100 | 0 | 95.5 | 85.1 | 107 | 0 | 0 | | |
| Barium | 48.88 | 1.00 | 50 | 0 | 97.8 | 85.7 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **LCS-29376** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775822** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cadmium | 4.77 | 0.100 | 5 | 0 | 95.4 | 87.2 | 109 | 0 | 0 | | |
| Chromium | 24.88 | 0.500 | 25 | 0 | 99.5 | 84 | 113 | 0 | 0 | | |
| Copper | 47.77 | 1.00 | 50 | 0 | 95.5 | 91.3 | 111 | 0 | 0 | | |
| Lead | 95.32 | 2.00 | 100 | 0 | 95.3 | 84.9 | 109 | 0 | 0 | | |
| Nickel | 24.22 | 0.500 | 25 | 0 | 96.9 | 85.5 | 112 | 0 | 0 | | |
| Selenium | 92.94 | 2.00 | 100 | 0 | 92.9 | 88.7 | 111 | 0 | 0 | | |
| Silver | 45.3 | 2.00 | 50 | 0 | 90.6 | 79.3 | 109 | 0 | 0 | | |
| Zinc | 51.26 | 1.00 | 50 | 0 | 103 | 86.8 | 112 | 0 | 0 | | |

| Sample ID: **1109055-03AMS** | SampType: **MS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775712** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 365.8 | 1.85 | 92.59 | 292.2 | 79.5 | 84.9 | 109 | 0 | 0 | | S |

| Sample ID: **A1109055-03AMS** | SampType: **MS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775825** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 91.24 | 1.85 | 92.59 | 4.426 | 93.8 | 86.1 | 109 | 0 | 0 | | |
| Barium | 623.8 | 0.926 | 46.3 | 462 | 349 | 75 | 125 | 0 | 0 | | S,MC |
| Cadmium | 4.454 | 0.0926 | 4.63 | 0.08333 | 94.4 | 86.4 | 113 | 0 | 0 | | |
| Chromium | 45.54 | 0.463 | 23.15 | 22.92 | 97.7 | 75 | 121 | 0 | 0 | | |
| Copper | 59.7 | 0.926 | 46.3 | 16.86 | 92.5 | 75.1 | 126 | 0 | 0 | | |
| Lead | 395.2 | 1.85 | 92.59 | 306.3 | 96 | 84.9 | 109 | 0 | 0 | | |
| Nickel | 34.8 | 0.463 | 23.15 | 10.87 | 103 | 89.3 | 105 | 0 | 0 | | |
| Selenium | 80.53 | 1.85 | 92.59 | 0 | 87 | 77.7 | 116 | 0 | 0 | | |
| Silver | 46.83 | 1.85 | 46.3 | 3.491 | 93.6 | 75 | 123 | 0 | 0 | | |
| Zinc | 346.9 | 0.926 | 46.3 | 239.5 | 232 | 86.2 | 113 | 0 | 0 | | S |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **1109055-03AMSD** | SampType: **MSD** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775713** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 335.3 | 1.92 | 96.15 | 292.2 | 44.8 | 84.9 | 109 | 365.8 | 8.71 | 20 | S |

| Sample ID: **A1109055-03AMSD** | SampType: **MSD** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775826** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 90.94 | 1.92 | 96.15 | 4.426 | 90 | 86.1 | 109 | 91.24 | 0.328 | 20 | |
| Barium | 595.4 | 0.962 | 48.08 | 462 | 277 | 75 | 125 | 623.8 | 4.66 | 20 | S,MC |
| Cadmium | 4.404 | 0.0962 | 4.808 | 0.08333 | 89.9 | 86.4 | 113 | 4.454 | 1.13 | 20 | |
| Chromium | 42.85 | 0.481 | 24.04 | 22.92 | 82.9 | 75 | 121 | 45.54 | 6.09 | 20 | |
| Copper | 57.71 | 0.962 | 48.08 | 16.86 | 85 | 75.1 | 126 | 59.7 | 3.39 | 20 | |
| Lead | 372.8 | 1.92 | 96.15 | 306.3 | 69.2 | 84.9 | 109 | 395.2 | 5.83 | 20 | S |
| Nickel | 32.08 | 0.481 | 24.04 | 10.87 | 88.2 | 89.3 | 105 | 34.8 | 8.13 | 20 | S |
| Selenium | 81.91 | 1.92 | 96.15 | 0 | 85.2 | 77.7 | 116 | 80.53 | 1.71 | 20 | |
| Silver | 46.31 | 1.92 | 48.08 | 3.491 | 89.1 | 75 | 123 | 46.83 | 1.13 | 20 | |
| Zinc | 330 | 0.962 | 48.08 | 239.5 | 188 | 86.2 | 113 | 346.9 | 4.98 | 20 | S |

| Sample ID: **1109055-03ADUP** | SampType: **DUP** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775711** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 357.9 | 1.85 | 0 | 0 | 0 | 0 | 0 | 292.2 | 20.2 | 20 | R |

| Sample ID: **A1109055-03ADUP** | SampType: **DUP** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775824** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3.435 | 1.85 | 0 | 0 | 0 | 0 | 0 | 4.426 | 25.2 | 20 | RF |
| Barium | 592.5 | 0.926 | 0 | 0 | 0 | 0 | 0 | 462 | 24.7 | 20 | R |
| Cadmium | ND | 0.0926 | 0 | 0 | 0 | 0 | 0 | 0.08333 | 0 | 20 | |
| Chromium | 20.94 | 0.463 | 0 | 0 | 0 | 0 | 0 | 22.92 | 8.99 | 20 | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **A1109055-03ADUP** | SampType: **DUP** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775824** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Copper | 15.21 | 0.926 | 0 | 0 | 0 | 0 | 0 | 16.86 | 10.3 | 20 | |
| Lead | 380.6 | 1.85 | 0 | 0 | 0 | 0 | 0 | 306.3 | 21.6 | 20 | R |
| Nickel | 12.42 | 0.463 | 0 | 0 | 0 | 0 | 0 | 10.87 | 13.3 | 20 | |
| Selenium | ND | 1.85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Silver | 3.306 | 1.85 | 0 | 0 | 0 | 0 | 0 | 3.491 | 5.45 | 20 | |
| Zinc | 274.4 | 0.926 | 0 | 0 | 0 | 0 | 0 | 239.5 | 13.6 | 20 | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_110909C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775707** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 95.51 | 2.00 | 100 | 0 | 95.5 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_110909C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775718** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 94.42 | 2.00 | 100 | 0 | 94.4 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_110909D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775830** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 100.8 | 2.00 | 100 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Barium | 50.33 | 1.00 | 50 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.99 | 0.100 | 5 | 0 | 99.8 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.11 | 0.500 | 25 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Copper | 49.37 | 1.00 | 50 | 0 | 98.7 | 90 | 110 | 0 | 0 | | |
| Lead | 100.5 | 2.00 | 100 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Nickel | 25.26 | 0.500 | 25 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Selenium | 98.29 | 2.00 | 100 | 0 | 98.3 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110909D**
Client ID: **ZZZZZ** Batch ID: **29376** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775830**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 47.52 | 2.00 | 50 | 0 | 95 | 90 | 110 | 0 | 0 | | |
| Zinc | 52.99 | 1.00 | 50 | 0 | 106 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110909D**
Client ID: **ZZZZZ** Batch ID: **29376** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775840**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 99.48 | 2.00 | 100 | 0 | 99.5 | 90 | 110 | 0 | 0 | | |
| Barium | 49.48 | 1.00 | 50 | 0 | 99 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.86 | 0.100 | 5 | 0 | 97.2 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.3 | 0.500 | 25 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Copper | 48.45 | 1.00 | 50 | 0 | 96.9 | 90 | 110 | 0 | 0 | | |
| Lead | 97.98 | 2.00 | 100 | 0 | 98 | 90 | 110 | 0 | 0 | | |
| Nickel | 24.79 | 0.500 | 25 | 0 | 99.2 | 90 | 110 | 0 | 0 | | |
| Selenium | 95.19 | 2.00 | 100 | 0 | 95.2 | 90 | 110 | 0 | 0 | | |
| Silver | 46.5 | 2.00 | 50 | 0 | 93 | 90 | 110 | 0 | 0 | | |
| Zinc | 52.11 | 1.00 | 50 | 0 | 104 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110909D**
Client ID: **ZZZZZ** Batch ID: **29376** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775845**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 103.1 | 2.00 | 100 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.95 | 0.100 | 5 | 0 | 99 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.95 | 0.500 | 25 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Copper | 49.2 | 1.00 | 50 | 0 | 98.4 | 90 | 110 | 0 | 0 | | |
| Lead | 101.5 | 2.00 | 100 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Nickel | 25.36 | 0.500 | 25 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Zinc | 52.88 | 1.00 | 50 | 0 | 106 | 90 | 110 | 0 | 0 | | |

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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110909C**
Client ID: **ZZZZZ** Batch ID: **29376** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775706**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 98.21 | 2.00 | 100 | 0 | 98.2 | 90 | 110 | 0 | 0 | | |

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110909D**
Client ID: **ZZZZZ** Batch ID: **29376** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775820**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 100.3 | 2.00 | 100 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Barium | 50.39 | 1.00 | 50 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.98 | 0.100 | 5 | 0 | 99.6 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.1 | 0.500 | 25 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Copper | 48.88 | 1.00 | 50 | 0 | 97.8 | 90 | 110 | 0 | 0 | | |
| Lead | 100.9 | 2.00 | 100 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Nickel | 25.39 | 0.500 | 25 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Selenium | 98.49 | 2.00 | 100 | 0 | 98.5 | 90 | 110 | 0 | 0 | | |
| Silver | 48.01 | 2.00 | 50 | 0 | 96 | 90 | 110 | 0 | 0 | | |
| Zinc | 53.3 | 1.00 | 50 | 0 | 107 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6020_S**

Sample ID: **MBLK-29432** SampType: **MBLK** TestCode: **6020_S** Units: **µg/Kg** Prep Date: **9/14/2011** Run ID: **ICPMS_110916A**
Client ID: **ZZZZZ** Batch ID: **29432** TestNo: **SW6020** Analysis Date: **9/16/2011** SeqNo: **777396**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 30.79 | 50.0 | | | | | | | | | J |
| Silver | 1.698 | 10.0 | | | | | | | | | J |

Sample ID: **LCS-29432** SampType: **LCS** TestCode: **6020_S** Units: **µg/Kg** Prep Date: **9/14/2011** Run ID: **ICPMS_110916A**
Client ID: **ZZZZZ** Batch ID: **29432** TestNo: **SW6020** Analysis Date: **9/16/2011** SeqNo: **777397**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 4929 | 50.0 | 5000 | 0 | 98.6 | 70 | 110 | 0 | 0 | | |
| Silver | 5076 | 10.0 | 5000 | 0 | 102 | 80 | 120 | 0 | 0 | | |

Sample ID: **1109060-04AMS** SampType: **MS** TestCode: **6020_S** Units: **µg/Kg-dry** Prep Date: **9/14/2011** Run ID: **ICPMS_110916A**
Client ID: **Sed-04** Batch ID: **29432** TestNo: **SW6020** Analysis Date: **9/16/2011** SeqNo: **777400**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 2812 | 91.1 | 9107 | 153.3 | 29.2 | 70 | 130 | 0 | 0 | | S |
| Silver | 8774 | 18.2 | 9107 | 160.3 | 94.6 | 70 | 130 | 0 | 0 | | |

Sample ID: **1109060-04AMSD** SampType: **MSD** TestCode: **6020_S** Units: **µg/Kg-dry** Prep Date: **9/14/2011** Run ID: **ICPMS_110916A**
Client ID: **Sed-04** Batch ID: **29432** TestNo: **SW6020** Analysis Date: **9/16/2011** SeqNo: **777401**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 2212 | 87.6 | 8757 | 153.3 | 23.5 | 70 | 130 | 2812 | 23.9 | 20 | SR |
| Silver | 7349 | 17.5 | 8757 | 160.3 | 82.1 | 70 | 130 | 8774 | 17.7 | 20 | |

Sample ID: **1109060-04ADUP** SampType: **DUP** TestCode: **6020_S** Units: **µg/Kg-dry** Prep Date: **9/14/2011** Run ID: **ICPMS_110916A**
Client ID: **Sed-04** Batch ID: **29432** TestNo: **SW6020** Analysis Date: **9/16/2011** SeqNo: **777399**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 149.1 | 84.3 | 0 | 0 | 0 | 0 | 0 | 153.3 | 2.77 | 20 | |
| Silver | 184.8 | 16.9 | 0 | 0 | 0 | 0 | 0 | 160.3 | 14.2 | 20 | |

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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6020_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **6020_S** Units: **µg/Kg** Prep Date: Run ID: **ICPMS_110916A**
Client ID: **ZZZZZ** Batch ID: **29432** TestNo: **SW6020** Analysis Date: **9/16/2011** SeqNo: **777395**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 4847 | 50.0 | 5000 | 0 | 96.9 | 90 | 110 | 0 | 0 | | |
| Silver | 5020 | 10.0 | 5000 | 0 | 100 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6020_S** Units: **µg/Kg** Prep Date: Run ID: **ICPMS_110916A**
Client ID: **ZZZZZ** Batch ID: **29432** TestNo: **SW6020** Analysis Date: **9/16/2011** SeqNo: **777405**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 4777 | 50.0 | 5000 | 0 | 95.5 | 90 | 110 | 0 | 0 | | |
| Silver | 4945 | 10.0 | 5000 | 0 | 98.9 | 90 | 110 | 0 | 0 | | |

Sample ID: **ICV** SampType: **ICV** TestCode: **6020_S** Units: **µg/Kg** Prep Date: Run ID: **ICPMS_110916A**
Client ID: **ZZZZZ** Batch ID: **29432** TestNo: **SW6020** Analysis Date: **9/16/2011** SeqNo: **777394**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 5154 | 50.0 | 5000 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Silver | 5162 | 10.0 | 5000 | 0 | 103 | 90 | 110 | 0 | 0 | | |

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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **MB-29381** | SampType: **MBLK** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **9/8/2011** | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776338** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016 | ND | 0.333 | | | | | | | | | |
| Aroclor 1221 | ND | 0.333 | | | | | | | | | |
| Aroclor 1232 | ND | 0.333 | | | | | | | | | |
| Aroclor 1242 | ND | 0.333 | | | | | | | | | |
| Aroclor 1248 | ND | 0.333 | | | | | | | | | |
| Aroclor 1254 | ND | 0.333 | | | | | | | | | |
| Aroclor 1260 | ND | 0.333 | | | | | | | | | |
| Aroclor 1262 | ND | 0.333 | | | | | | | | | |
| Aroclor 1268 | ND | 0.333 | | | | | | | | | |
| Surr: Decachlorobiphenyl | 8437 | 0 | 6667 | 0 | 127 | 56.5 | 130 | 0 | 0 | | |

| Sample ID: **LCS-29381** | SampType: **LCS** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **9/8/2011** | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776339** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 60.67 | 0.333 | 66.67 | 0 | 91 | 44.3 | 137 | 0 | 0 | | |

| Sample ID: **1109045-04AMS** | SampType: **MS** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **9/8/2011** | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776340** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 48.37 | 0.403 | 80.61 | 0 | 60 | 56.6 | 123 | 0 | 0 | | |

| Sample ID: **1109045-04AMSD** | SampType: **MSD** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **9/8/2011** | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776341** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 50.79 | 0.403 | 80.61 | 0 | 63 | 56.6 | 123 | 48.37 | 4.88 | 20 | |

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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776337** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 67.33 | 0.333 | 66.67 | 0 | 101 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776348** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 72 | 0.333 | 66.67 | 0 | 108 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776528** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 64 | 0.333 | 66.67 | 0 | 96 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 58 | 0.333 | 66.67 | 0 | 87 | 85 | 115 | 0 | 0 | | |

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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8270LL_S**

Sample ID: **MB-29477** SampType: **MBLK** TestCode: **8270LL_S** Units: **µg/Kg** Prep Date: **9/20/2011** Run ID: **5973G_110922A**
Client ID: **ZZZZZ** Batch ID: **29477** TestNo: **SW8270D** Analysis Date: **9/22/2011** SeqNo: **778734**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 33.3 | | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 33.3 | | | | | | | | | |
| 1,2-Diphenylhydrazine | ND | 167 | | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 33.3 | | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 33.3 | | | | | | | | | |
| 2,4,5-Trichlorophenol | ND | 33.3 | | | | | | | | | |
| 2,4,6-Trichlorophenol | ND | 33.3 | | | | | | | | | |
| 2,4-Dichlorophenol | ND | 33.3 | | | | | | | | | |
| 2,4-Dimethylphenol | ND | 33.3 | | | | | | | | | |
| 2,4-Dinitrophenol | ND | 333 | | | | | | | | | |
| 2,4-Dinitrotoluene | ND | 33.3 | | | | | | | | | |
| 2,6-Dinitrotoluene | ND | 33.3 | | | | | | | | | |
| 2-Chloronaphthalene | ND | 33.3 | | | | | | | | | |
| 2-Chlorophenol | ND | 33.3 | | | | | | | | | |
| 2-Methylnaphthalene | ND | 33.3 | | | | | | | | | |
| 2-Methylphenol | ND | 33.3 | | | | | | | | | |
| 2-Nitroaniline | ND | 33.3 | | | | | | | | | |
| 2-Nitrophenol | ND | 167 | | | | | | | | | |
| 3,3-Dichlorobenzidine | ND | 167 | | | | | | | | | |
| 3-&4-Methylphenol | ND | 33.3 | | | | | | | | | |
| 3-Nitroaniline | ND | 33.3 | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ND | 167 | | | | | | | | | |
| 4-Bromophenyl phenyl ether | ND | 33.3 | | | | | | | | | |
| 4-Chloro-3-methylphenol | ND | 33.3 | | | | | | | | | |
| 4-Chloroaniline | ND | 33.3 | | | | | | | | | |
| 4-Chlorophenyl phenyl ether | ND | 33.3 | | | | | | | | | |
| 4-Nitroaniline | ND | 33.3 | | | | | | | | | |
| 4-Nitrophenol | ND | 167 | | | | | | | | | |
| Acenaphthene | ND | 33.3 | | | | | | | | | |
| Acenaphthylene | ND | 33.3 | | | | | | | | | |
| Anthracene | ND | 33.3 | | | | | | | | | |

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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8270LL_S**

Sample ID: **MB-29477** SampType: **MBLK** TestCode: **8270LL_S** Units: **µg/Kg** Prep Date: **9/20/2011** Run ID: **5973G_110922A**
Client ID: **ZZZZZ** Batch ID: **29477** TestNo: **SW8270D** Analysis Date: **9/22/2011** SeqNo: **778734**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benz(a)anthracene | ND | 33.3 | | | | | | | | | |
| Benzidine | ND | 167 | | | | | | | | | |
| Benzo(a)pyrene | ND | 33.3 | | | | | | | | | |
| Benzo(b)fluoranthene | ND | 33.3 | | | | | | | | | |
| Benzo(g,h,i)perylene | ND | 33.3 | | | | | | | | | |
| Benzo(k)fluoranthene | ND | 33.3 | | | | | | | | | |
| Benzoic Acid | ND | 667 | | | | | | | | | |
| Benzyl Alcohol | ND | 33.3 | | | | | | | | | |
| Benzyl butyl phthalate | ND | 33.3 | | | | | | | | | |
| Bis(2-chloroethoxy)methane | ND | 33.3 | | | | | | | | | |
| Bis(2-chloroethyl)ether | ND | 33.3 | | | | | | | | | |
| Bis(2-chloroisopropyl)ether | ND | 33.3 | | | | | | | | | |
| Bis(2-ethylhexyl)phthalate | ND | 33.3 | | | | | | | | | |
| Carbazole | ND | 33.3 | | | | | | | | | |
| Chrysene | ND | 33.3 | | | | | | | | | |
| Di-n-butyl phthalate | ND | 50.0 | | | | | | | | | |
| Di-n-octyl phthalate | ND | 33.3 | | | | | | | | | |
| Dibenz(a,h)anthracene | ND | 33.3 | | | | | | | | | |
| Dibenzofuran | ND | 33.3 | | | | | | | | | |
| Diethyl phthalate | ND | 33.3 | | | | | | | | | |
| Dimethyl phthalate | ND | 33.3 | | | | | | | | | |
| Fluoranthene | ND | 33.3 | | | | | | | | | |
| Fluorene | ND | 33.3 | | | | | | | | | |
| Hexachlorobenzene | ND | 33.3 | | | | | | | | | |
| Hexachlorobutadiene | ND | 33.3 | | | | | | | | | |
| Hexachlorocyclopentadiene | ND | 33.3 | | | | | | | | | |
| Hexachloroethane | ND | 33.3 | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 33.3 | | | | | | | | | |
| Isophorone | ND | 33.3 | | | | | | | | | |
| N-Nitrosodi-n-propylamine | ND | 33.3 | | | | | | | | | |
| N-Nitrosodimethylamine | ND | 33.3 | | | | | | | | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8270LL_S**

| Sample ID: **MB-29477** | SampType: **MBLK** | TestCode: **8270LL_S** | Units: **µg/Kg** | Prep Date: **9/20/2011** | Run ID: **5973G_110922A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29477** | TestNo: **SW8270D** | | Analysis Date: **9/22/2011** | SeqNo: **778734** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| N-Nitrosodiphenylamine | ND | 33.3 | | | | | | | | | |
| Naphthalene | ND | 33.3 | | | | | | | | | |
| Nitrobenzene | ND | 33.3 | | | | | | | | | |
| Pentachlorophenol | ND | 50.0 | | | | | | | | | |
| Phenanthrene | ND | 33.3 | | | | | | | | | |
| Phenol | ND | 33.3 | | | | | | | | | |
| Pyrene | ND | 33.3 | | | | | | | | | |
| Pyridine | ND | 167 | | | | | | | | | |
| Surr: 2,4,6-Tribromophenol | 1502 | 0 | 3333 | 0 | 45.1 | 57.8 | 119 | 0 | 0 | | S |
| Surr: 2-Fluorobiphenyl | 2149 | 0 | 3333 | 0 | 64.5 | 52.6 | 93.2 | 0 | 0 | | |
| Surr: 2-Fluorophenol | 1685 | 0 | 3333 | 0 | 50.6 | 40.7 | 111 | 0 | 0 | | |
| Surr: 4-Terphenyl-d14 | 3038 | 0 | 3333 | 0 | 91.2 | 49.8 | 118 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 1772 | 0 | 3333 | 0 | 53.2 | 44.8 | 103 | 0 | 0 | | |
| Surr: Phenol-d6 | 1644 | 0 | 3333 | 0 | 49.3 | 47.5 | 117 | 0 | 0 | | |

| Sample ID: **LCS-29477** | SampType: **LCS** | TestCode: **8270LL_S** | Units: **µg/Kg** | Prep Date: **9/20/2011** | Run ID: **5973G_110922A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29477** | TestNo: **SW8270D** | | Analysis Date: **9/22/2011** | SeqNo: **778735** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 1309 | 33.3 | 1667 | 0 | 78.6 | 30.9 | 106 | 0 | 0 | | |
| 1,4-Dichlorobenzene | 1347 | 33.3 | 1667 | 0 | 80.8 | 31.4 | 98.2 | 0 | 0 | | |
| 2,4-Dinitrotoluene | 1568 | 33.3 | 1667 | 0 | 94.1 | 59.7 | 111 | 0 | 0 | | |
| 2-Chlorophenol | 1391 | 33.3 | 1667 | 0 | 83.4 | 46.2 | 105 | 0 | 0 | | |
| 4-Chloro-3-methylphenol | 1370 | 33.3 | 1667 | 0 | 82.2 | 47.4 | 114 | 0 | 0 | | |
| 4-Nitrophenol | 1112 | 167 | 1667 | 0 | 66.7 | 45.3 | 114 | 0 | 0 | | |
| Acenaphthene | 1270 | 33.3 | 1667 | 0 | 76.2 | 48.2 | 105 | 0 | 0 | | |
| N-Nitrosodi-n-propylamine | 1354 | 33.3 | 1667 | 0 | 81.2 | 42.4 | 101 | 0 | 0 | | |
| Pentachlorophenol | 1172 | 50.0 | 1667 | 0 | 70.3 | 46.8 | 120 | 0 | 0 | | |
| Phenol | 1387 | 33.3 | 1667 | 0 | 83.2 | 51.1 | 103 | 0 | 0 | | |
| Pyrene | 1151 | 33.3 | 1667 | 0 | 69.1 | 56.7 | 130 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8270LL_S**

Sample ID: **1109060-03AMS** SampType: **MS** TestCode: **8270LL_S** Units: **µg/Kg-dry** Prep Date: **9/20/2011** Run ID: **5973G_110922A**
Client ID: **Sed-03** Batch ID: **29477** TestNo: **SW8270D** Analysis Date: **9/22/2011** SeqNo: **778736**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 1899 | 55.1 | 2759 | 0 | 68.8 | 31.1 | 92.7 | 0 | 0 | | |
| 1,4-Dichlorobenzene | 1808 | 55.1 | 2759 | 0 | 65.5 | 16.5 | 85.6 | 0 | 0 | | |
| 2,4-Dinitrotoluene | 2262 | 55.1 | 2759 | 0 | 82 | 43.4 | 118 | 0 | 0 | | |
| 2-Chlorophenol | 1804 | 55.1 | 2759 | 0 | 65.4 | 36.8 | 103 | 0 | 0 | | |
| 4-Chloro-3-methylphenol | 1897 | 55.1 | 2759 | 0 | 68.8 | 49.5 | 119 | 0 | 0 | | |
| 4-Nitrophenol | 1456 | 276 | 2759 | 0 | 52.8 | 45 | 111 | 0 | 0 | | |
| Acenaphthene | 1965 | 55.1 | 2759 | 0 | 71.2 | 45.1 | 102 | 0 | 0 | | |
| N-Nitrosodi-n-propylamine | 1842 | 55.1 | 2759 | 0 | 66.8 | 45.6 | 94.1 | 0 | 0 | | |
| Pentachlorophenol | 1387 | 82.8 | 2759 | 0 | 50.3 | 36.6 | 112 | 0 | 0 | | |
| Phenol | 1783 | 55.1 | 2759 | 0 | 64.6 | 37.7 | 107 | 0 | 0 | | |
| Pyrene | 1897 | 55.1 | 2759 | 0 | 68.8 | 42.4 | 131 | 0 | 0 | | |

Sample ID: **1109060-03AMSD** SampType: **MSD** TestCode: **8270LL_S** Units: **µg/Kg-dry** Prep Date: **9/20/2011** Run ID: **5973G_110922A**
Client ID: **Sed-03** Batch ID: **29477** TestNo: **SW8270D** Analysis Date: **9/22/2011** SeqNo: **778737**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 2182 | 55.1 | 2759 | 0 | 79.1 | 31.1 | 92.7 | 1899 | 13.9 | 20 | |
| 1,4-Dichlorobenzene | 2176 | 55.1 | 2759 | 0 | 78.9 | 16.5 | 85.6 | 1808 | 18.4 | 20 | |
| 2,4-Dinitrotoluene | 2518 | 55.1 | 2759 | 0 | 91.2 | 43.4 | 118 | 2262 | 10.7 | 20 | |
| 2-Chlorophenol | 2164 | 55.1 | 2759 | 0 | 78.4 | 36.8 | 103 | 1804 | 18.1 | 20 | |
| 4-Chloro-3-methylphenol | 2003 | 55.1 | 2759 | 0 | 72.6 | 49.5 | 119 | 1897 | 5.43 | 20 | |
| 4-Nitrophenol | 1817 | 276 | 2759 | 0 | 65.8 | 45 | 111 | 1456 | 22.0 | 20 | R |
| Acenaphthene | 2174 | 55.1 | 2759 | 0 | 78.8 | 45.1 | 102 | 1965 | 10.1 | 20 | |
| N-Nitrosodi-n-propylamine | 2318 | 55.1 | 2759 | 0 | 84 | 45.6 | 94.1 | 1842 | 22.9 | 20 | R |
| Pentachlorophenol | 1667 | 82.8 | 2759 | 0 | 60.4 | 36.6 | 112 | 1387 | 18.3 | 20 | |
| Phenol | 2170 | 55.1 | 2759 | 0 | 78.6 | 37.7 | 107 | 1783 | 19.6 | 20 | |
| Pyrene | 1881 | 55.1 | 2759 | 0 | 68.2 | 42.4 | 131 | 1897 | 0.876 | 20 | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8270LL_S**

Sample ID: **CCV-29477** SampType: **CCV** TestCode: **8270LL_S** Units: **µg/Kg** Prep Date: Run ID: **5973G_110922A**
Client ID: **ZZZZZ** Batch ID: **29477** TestNo: **SW8270D** Analysis Date: **9/22/2011** SeqNo: **778733**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | 1566 | 33.3 | 1333 | 0 | 117 | 80 | 120 | 0 | 0 | | |
| 2,4,6-Trichlorophenol | 1289 | 33.3 | 1333 | 0 | 96.7 | 80 | 120 | 0 | 0 | | |
| 2,4-Dichlorophenol | 1297 | 33.3 | 1333 | 0 | 97.3 | 80 | 120 | 0 | 0 | | |
| 2-Nitrophenol | 1353 | 167 | 1333 | 0 | 101 | 80 | 120 | 0 | 0 | | |
| 3-&4-Methylphenol | 1536 | 33.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Chloro-3-methylphenol | 1243 | 33.3 | 1333 | 0 | 93.2 | 80 | 120 | 0 | 0 | | |
| Acenaphthene | 1159 | 33.3 | 1333 | 0 | 86.9 | 80 | 120 | 0 | 0 | | |
| Benzo(a)pyrene | 1423 | 33.3 | 1333 | 0 | 107 | 80 | 120 | 0 | 0 | | |
| Di-n-octyl phthalate | 1403 | 33.3 | 1333 | 0 | 105 | 80 | 120 | 0 | 0 | | |
| Fluoranthene | 1118 | 33.3 | 1333 | 0 | 83.9 | 80 | 120 | 0 | 0 | | |
| Hexachlorobutadiene | 1387 | 33.3 | 1333 | 0 | 104 | 80 | 120 | 0 | 0 | | |
| N-Nitrosodiphenylamine | 1123 | 33.3 | 1333 | 0 | 84.2 | 80 | 120 | 0 | 0 | | |
| Pentachlorophenol | 1265 | 50.0 | 1333 | 0 | 94.9 | 80 | 120 | 0 | 0 | | |
| Phenol | 1510 | 33.3 | 1333 | 0 | 113 | 80 | 120 | 0 | 0 | | |

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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **MB-29399** | SampType: **MBLK** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776057** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.0167 | | | | | | | | | |

| Sample ID: **LCS-29399** | SampType: **LCS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776056** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.272 | 0.0167 | 0.25 | 0 | 109 | 88.2 | 113 | 0 | 0 | | |

| Sample ID: **1109076-02AMS** | SampType: **MS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776053** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.1629 | 0.00737 | 0.1103 | 0.09887 | 58.1 | 78.1 | 125 | 0 | 0 | | S,MI |

| Sample ID: **1109076-02AMSD** | SampType: **MSD** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776054** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.1741 | 0.00783 | 0.1172 | 0.09887 | 64.2 | 78.1 | 125 | 0.1629 | 6.62 | 20 | S,MI |

| Sample ID: **1109076-02ADUP** | SampType: **DUP** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776052** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.05723 | 0.00783 | 0 | 0 | 0 | 0 | 0 | 0.09887 | 53.4 | 20 | R,MI |

| Sample ID: **CCV-29399** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776055** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **CCV-29399** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776055** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2602 | 0.0167 | 0.25 | 0 | 104 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV-29399** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776066** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2562 | 0.0167 | 0.25 | 0 | 102 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

| Sample ID: **MB-29407** | SampType: **MBLK** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **GC-M_110913A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29407** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/13/2011** | SeqNo: **776399** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | | | | | | | | | |
| Lube Oil | ND | 50.0 | | | | | | | | | |
| Surr: o-Terphenyl | 32.22 | 0 | 33.33 | 0 | 96.7 | 50 | 150 | 0 | 0 | | |

| Sample ID: **LCS-29407** | SampType: **LCS** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **GC-M_110913A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29407** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/13/2011** | SeqNo: **776400** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 181.6 | 15.0 | 166.6 | 0 | 109 | 76.3 | 125 | 0 | 0 | | |
| Lube Oil | 188.8 | 50.0 | 166.6 | 0 | 113 | 69.9 | 127 | 0 | 0 | | |

| Sample ID: **1109056-01ADUP** | SampType: **DUP** | TestCode: **NWTPHDX_S** | Units: **mg/Kg-dry** | Prep Date: **9/12/2011** | Run ID: **GC-M_110913A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29407** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/13/2011** | SeqNo: **776402** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 2022 | 16.4 | 0 | 0 | 0 | 0 | 0 | 1969 | 2.66 | 20 | |
| Lube Oil | 71.52 | 54.6 | 0 | 0 | 0 | 0 | 0 | 79.15 | 10.1 | 20 | M |

| Sample ID: **1109045-07ADUP** | SampType: **DUP** | TestCode: **NWTPHDX_S** | Units: **mg/Kg-dry** | Prep Date: **9/12/2011** | Run ID: **GC-M_110913A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29407** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/13/2011** | SeqNo: **776483** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 117.5 | 24.8 | 0 | 0 | 0 | 0 | 0 | 186.5 | 45.4 | 20 | R,MI,A1 |
| Lube Oil | 764.2 | 82.6 | 0 | 0 | 0 | 0 | 0 | 1139 | 39.4 | 20 | R,MI,A2 |

| Sample ID: **CCB** | SampType: **CCB** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **GC-M_110913A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29407** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/14/2011** | SeqNo: **776705** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

Sample ID: **CCB** SampType: **CCB** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: **9/12/2011** Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/14/2011** SeqNo: **776705**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lube Oil | 4.553 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: o-Terphenyl | 32.69 | 0 | 33.33 | 0 | 98.1 | 50 | 150 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/13/2011** SeqNo: **776398**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1052 | 15.0 | 1009 | 0 | 104 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 586.3 | 50.0 | 524.9 | 0 | 112 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/13/2011** SeqNo: **776412**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1368 | 15.0 | 1346 | 0 | 102 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 740.4 | 50.0 | 699.9 | 0 | 106 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/13/2011** SeqNo: **776492**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1005 | 15.0 | 1009 | 0 | 99.6 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 544.2 | 50.0 | 524.9 | 0 | 104 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/14/2011** SeqNo: **776703**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1046 | 15.0 | 1009 | 0 | 104 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 548.1 | 50.0 | 524.9 | 0 | 104 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/14/2011** SeqNo: **776707**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1054 | 15.0 | 1009 | 0 | 104 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 556.7 | 50.0 | 524.9 | 0 | 106 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **MB-29392** SampType: **MBLK** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **9/9/2011** Run ID: **5975Q_110914B**
Client ID: **ZZZZZ** Batch ID: **29392** TestNo: **8270SIM** Analysis Date: **9/14/2011** SeqNo: **776886**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ND | 6.67 | | | | | | | | | |
| 2-Methylnaphthalene | ND | 6.67 | | | | | | | | | |
| Acenaphthene | ND | 6.67 | | | | | | | | | |
| Acenaphthylene | ND | 6.67 | | | | | | | | | |
| Anthracene | ND | 6.67 | | | | | | | | | |
| Benz(a)anthracene | ND | 6.67 | | | | | | | | | |
| Benzo(a)pyrene | ND | 6.67 | | | | | | | | | |
| Benzo(b)fluoranthene | ND | 6.67 | | | | | | | | | |
| Benzo(g,h,i)perylene | ND | 6.67 | | | | | | | | | |
| Benzo(k)fluoranthene | ND | 6.67 | | | | | | | | | |
| Chrysene | ND | 6.67 | | | | | | | | | |
| Dibenz(a,h)anthracene | ND | 6.67 | | | | | | | | | |
| Fluoranthene | ND | 6.67 | | | | | | | | | |
| Fluorene | ND | 6.67 | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 6.67 | | | | | | | | | |
| Naphthalene | ND | 6.67 | | | | | | | | | |
| Phenanthrene | ND | 6.67 | | | | | | | | | |
| Pyrene | ND | 6.67 | | | | | | | | | |
| Surr: 2-Fluorobiphenyl | 5309 | 0 | 6667 | 0 | 79.6 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 4649 | 0 | 6667 | 0 | 69.7 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 6413 | 0 | 6667 | 0 | 96.2 | 44.9 | 155 | 0 | 0 | | |

Sample ID: **LCS-29392** SampType: **LCS** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **9/9/2011** Run ID: **5975Q_110914B**
Client ID: **ZZZZZ** Batch ID: **29392** TestNo: **8270SIM** Analysis Date: **9/15/2011** SeqNo: **776899**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 237.3 | 6.67 | 333.3 | 0 | 71.2 | 39.6 | 107 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 250 | 6.67 | 333.3 | 0 | 75 | 49.7 | 135 | 0 | 0 | | |
| Chrysene | 286 | 6.67 | 333.3 | 0 | 85.8 | 57.1 | 130 | 0 | 0 | | |
| Naphthalene | 210.7 | 6.67 | 333.3 | 0 | 63.2 | 29.1 | 109 | 0 | 0 | | |
| Phenanthrene | 310 | 6.67 | 333.3 | 0 | 93 | 48.4 | 115 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **LCS-29392** | SampType: **LCS** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **9/9/2011** | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/15/2011** | SeqNo: **776899** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pyrene | 282.7 | 6.67 | 333.3 | 0 | 84.8 | 47.2 | 134 | 0 | 0 | | |

| Sample ID: **1109062-07AMS** | SampType: **MS** | TestCode: **PAHLL_S** | Units: **µg/Kg-dry** | Prep Date: **9/9/2011** | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/15/2011** | SeqNo: **776900** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 307.8 | 8.82 | 440.9 | 1.764 | 69.4 | 33.7 | 111 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 301.6 | 8.82 | 440.9 | 15.87 | 64.8 | 15 | 128 | 0 | 0 | | |
| Chrysene | 353.6 | 8.82 | 440.9 | 14.11 | 77 | 37.5 | 125 | 0 | 0 | | |
| Naphthalene | 240.7 | 8.82 | 440.9 | 7.937 | 52.8 | 27.7 | 108 | 0 | 0 | | |
| Phenanthrene | 421.5 | 8.82 | 440.9 | 29.98 | 88.8 | 20.2 | 139 | 0 | 0 | | |
| Pyrene | 362.4 | 8.82 | 440.9 | 32.63 | 74.8 | 26.8 | 142 | 0 | 0 | | |

| Sample ID: **1109062-07AMSD** | SampType: **MSD** | TestCode: **PAHLL_S** | Units: **µg/Kg-dry** | Prep Date: **9/9/2011** | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/15/2011** | SeqNo: **776901** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 323.6 | 8.82 | 440.9 | 1.764 | 73 | 33.7 | 111 | 307.8 | 5.03 | 20 | |
| Benzo(g,h,i)perylene | 364.2 | 8.82 | 440.9 | 15.87 | 79 | 15 | 128 | 301.6 | 18.8 | 20 | |
| Chrysene | 380.1 | 8.82 | 440.9 | 14.11 | 83 | 37.5 | 125 | 353.6 | 7.21 | 20 | |
| Naphthalene | 252.2 | 8.82 | 440.9 | 7.937 | 55.4 | 27.7 | 108 | 240.7 | 4.65 | 20 | |
| Phenanthrene | 451.5 | 8.82 | 440.9 | 29.98 | 95.6 | 20.2 | 139 | 421.5 | 6.87 | 20 | |
| Pyrene | 395.1 | 8.82 | 440.9 | 32.63 | 82.2 | 26.8 | 142 | 362.4 | 8.61 | 20 | |

| Sample ID: **CCB-29392** | SampType: **CCB** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/15/2011** | SeqNo: **777216** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Methylnaphthalene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **CCB-29392** SampType: **CCB** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_110914B**
Client ID: **ZZZZZ** Batch ID: **29392** TestNo: **8270SIM** Analysis Date: **9/15/2011** SeqNo: **777216**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthylene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benz(a)anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(a)pyrene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(b)fluoranthene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(g,h,i)perylene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(k)fluoranthene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chrysene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibenz(a,h)anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluoranthene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluorene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Phenanthrene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Pyrene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 2-Fluorobiphenyl | 5199 | 0 | 6667 | 0 | 78 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 4914 | 0 | 6667 | 0 | 73.7 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 6822 | 0 | 6667 | 0 | 102 | 44.9 | 155 | 0 | 0 | | |

Sample ID: **CCB-29392** SampType: **CCB** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_110914B**
Client ID: **ZZZZZ** Batch ID: **29392** TestNo: **8270SIM** Analysis Date: **9/17/2011** SeqNo: **777442**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Methylnaphthalene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthylene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benz(a)anthracene | 3.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(a)pyrene | 3.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(b)fluoranthene | 4 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **CCB-29392** SampType: **CCB** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_110914B**
Client ID: **ZZZZZ** Batch ID: **29392** TestNo: **8270SIM** Analysis Date: **9/17/2011** SeqNo: **777442**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzo(g,h,i)perylene | 2.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(k)fluoranthene | 4 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chrysene | 2.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluoranthene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluorene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 2.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Phenanthrene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Pyrene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 2-Fluorobiphenyl | 3989 | 0 | 6667 | 0 | 59.8 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 3741 | 0 | 6667 | 0 | 56.1 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 5579 | 0 | 6667 | 0 | 83.7 | 44.9 | 155 | 0 | 0 | | |

Sample ID: **CCV-29392** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_110914B**
Client ID: **ZZZZZ** Batch ID: **29392** TestNo: **8270SIM** Analysis Date: **9/14/2011** SeqNo: **776885**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 316 | 6.67 | 333.3 | 0 | 94.8 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 327.3 | 6.67 | 333.3 | 0 | 98.2 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 328.7 | 6.67 | 333.3 | 0 | 98.6 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 320 | 6.67 | 333.3 | 0 | 96 | 70 | 130 | 0 | 0 | | |
| Anthracene | 321.3 | 6.67 | 333.3 | 0 | 96.4 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 298 | 6.67 | 333.3 | 0 | 89.4 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 356 | 6.67 | 333.3 | 0 | 107 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 343.3 | 6.67 | 333.3 | 0 | 103 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 348.7 | 6.67 | 333.3 | 0 | 105 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 351.3 | 6.67 | 333.3 | 0 | 105 | 70 | 130 | 0 | 0 | | |
| Chrysene | 322 | 6.67 | 333.3 | 0 | 96.6 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 339.3 | 6.67 | 333.3 | 0 | 102 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 316 | 6.67 | 333.3 | 0 | 94.8 | 70 | 130 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **CCV-29392** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/14/2011** | SeqNo: **776885** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Fluorene | 318 | 6.67 | 333.3 | 0 | 95.4 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 362.7 | 6.67 | 333.3 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 310 | 6.67 | 333.3 | 0 | 93 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 396 | 6.67 | 333.3 | 0 | 119 | 70 | 130 | 0 | 0 | | |
| Pyrene | 323.3 | 6.67 | 333.3 | 0 | 97 | 70 | 130 | 0 | 0 | | |

| Sample ID: **CCV-29392** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/15/2011** | SeqNo: **777215** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 122.7 | 6.67 | 133.3 | 0 | 92 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 126 | 6.67 | 133.3 | 0 | 94.5 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 130 | 6.67 | 133.3 | 0 | 97.5 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 136.7 | 6.67 | 133.3 | 0 | 102 | 70 | 130 | 0 | 0 | | |
| Anthracene | 130.7 | 6.67 | 133.3 | 0 | 98 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 118 | 6.67 | 133.3 | 0 | 88.5 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 133.3 | 6.67 | 133.3 | 0 | 100 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 124.7 | 6.67 | 133.3 | 0 | 93.5 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 121.3 | 6.67 | 133.3 | 0 | 91 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 128.7 | 6.67 | 133.3 | 0 | 96.5 | 70 | 130 | 0 | 0 | | |
| Chrysene | 127.3 | 6.67 | 133.3 | 0 | 95.5 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 126.7 | 6.67 | 133.3 | 0 | 95 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 120.7 | 6.67 | 133.3 | 0 | 90.5 | 70 | 130 | 0 | 0 | | |
| Fluorene | 135.3 | 6.67 | 133.3 | 0 | 101 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 133.3 | 6.67 | 133.3 | 0 | 100 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 122 | 6.67 | 133.3 | 0 | 91.5 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 146 | 6.67 | 133.3 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Pyrene | 144.7 | 6.67 | 133.3 | 0 | 108 | 70 | 130 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **CCV-29392** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_110914B**
Client ID: **ZZZZZ** Batch ID: **29392** TestNo: **8270SIM** Analysis Date: **9/17/2011** SeqNo: **777441**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 356.7 | 6.67 | 333.3 | 0 | 107 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 358 | 6.67 | 333.3 | 0 | 107 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 360.7 | 6.67 | 333.3 | 0 | 108 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 371.3 | 6.67 | 333.3 | 0 | 111 | 70 | 130 | 0 | 0 | | |
| Anthracene | 372 | 6.67 | 333.3 | 0 | 112 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 334.7 | 6.67 | 333.3 | 0 | 100 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 389.3 | 6.67 | 333.3 | 0 | 117 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 386 | 6.67 | 333.3 | 0 | 116 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 342 | 6.67 | 333.3 | 0 | 103 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 406 | 6.67 | 333.3 | 0 | 122 | 70 | 130 | 0 | 0 | | |
| Chrysene | 358 | 6.67 | 333.3 | 0 | 107 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 359.3 | 6.67 | 333.3 | 0 | 108 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 362.7 | 6.67 | 333.3 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Fluorene | 380.7 | 6.67 | 333.3 | 0 | 114 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 376.7 | 6.67 | 333.3 | 0 | 113 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 348 | 6.67 | 333.3 | 0 | 104 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 393.3 | 6.67 | 333.3 | 0 | 118 | 70 | 130 | 0 | 0 | | |
| Pyrene | 377.3 | 6.67 | 333.3 | 0 | 113 | 70 | 130 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: SOLIDS_%**

Sample ID: **1109060-04ADUP** SampType: **DUP** TestCode: **SOLIDS_%** Units: **wt%** Prep Date: Run ID: **WETCHEM_110909C**
Client ID: **Sed-04** Batch ID: **R68875** TestNo: **A2216** Analysis Date: **9/9/2011** SeqNo: **775672**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Solids | 57 | 0.100 | 0 | 0 | 0 | 0 | 0 | 57.3 | 0.525 | 20 | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109060
**Project:** Port of Camas / 0229.04.01

# ANALYTICAL QC SUMMARY REPORT

**TestCode: TOC_S**

| Sample ID: **MBLK** | SampType: **MBLK** | TestCode: **TOC_S** | Units: **mg/Kg-dry** | Prep Date: | Run ID: **TOC-APOLLO_110915A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **R68992** | TestNo: **SW9060** | | Analysis Date: **9/15/2011** | SeqNo: **777101** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon | ND | 100 | | | | | | | | | |

| Sample ID: **LCS** | SampType: **LCS** | TestCode: **TOC_S** | Units: **mg/Kg-dry** | Prep Date: | Run ID: **TOC-APOLLO_110915A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **R68992** | TestNo: **SW9060** | | Analysis Date: **9/15/2011** | SeqNo: **777100** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon | 2338 | 100 | 2073 | 0 | 113 | 80 | 120 | 0 | 0 | | |

| Sample ID: **1109060-04ADUP** | SampType: **DUP** | TestCode: **TOC_S** | Units: **mg/Kg-dry** | Prep Date: | Run ID: **TOC-APOLLO_110915A** |
|---|---|---|---|---|---|
| Client ID: **Sed-04** | Batch ID: **R68992** | TestNo: **SW9060** | | Analysis Date: **9/15/2011** | SeqNo: **777106** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon | 5307 | 100 | 0 | 0 | 0 | 0 | 0 | 5095 | 4.07 | 20 | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **TOC_S** | Units: **mg/Kg-dry** | Prep Date: | Run ID: **TOC-APOLLO_110915A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **R68992** | TestNo: **SW9060** | | Analysis Date: **9/15/2011** | SeqNo: **777107** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon | 2335 | 100 | 2073 | 0 | 113 | 80 | 120 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

# CHAIN OF CUSTODY RECORD

Page 1 of 1


## Specialty Analytical
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336


Contact Person/Project Manager: Christine Johnson
Company: MFA
Address: 2001 NW 19th Ave Ste 200
Portland OR 97209
Phone: _____ Fax: _____
Project No.: _____ Project Name: _____
Project Site Location OR: _____ WA: X Other: _____
Invoice To: _____ P.O. No.: _____

Collected By:
Signature: [signature]
Printed: Mike Murray
Signature: _____
Printed: _____

Turn Around Time
☒ Normal 5-7 Business Days
☐ Rush _____
Specify
**Rush Analyses Must Be Scheduled With The Lab In Advance**

**For Laboratory Use**
Lab Job No. 1109060
Shipped Via Specialty
Air Bill No. _____
Temperature On Receipt 5 °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: Total Solids (%) | TOC, Grain Size | Metals 6010/6020 | Mercury 7471 | PAH 8270 | PCB 8082 | TPH (Diesel, Residual) | SVOC | | | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/7/11 | 1245 | Sed-01 | Sed | 1 | X | X | X | X | X | X | X | X | | | | |
| 9/7/11 | 1230 | Sed-02 | Sed | | | | | | | | | X | | | | |
| 9/7/11 | 1145 | Sed-03 | Sed | | | | | | | | | X | | | | |
| 9/7/11 | 1130 | Sed-04 | Sed | | | | | | | | | X | | | | |
| | | | | | | | | | | | | | | | | |
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| Relinquished By: | Date | Time | Received By: | Relinquished By: | Date | Time |
|---|---|---|---|---|---|---|
| Company: MFA | 9/8/11 | 1040 | Company: Specialty | Company: Specialty | 9/8/11 | 1355 |
| | | | | Received For Lab By: Nikki Bippes | Date 9/8/11 | Time 1355 |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Copies: White-Original Yellow-Project File Pink-Customer Copy

**Analytical Resources, Incorporated**
Analytical Chemists and Consultants

3 October 2011

Nikki Bippes
Specialty Analytical
11711 SE Capps Road
Clackamas, OR 97015

**RE: Project: Sample received 09/20/2011**
**ARI Job No: TN10**

Dear Nikki:

Please find enclosed the original chain of custody records and the final results for the samples from the project referenced above. Analytical Resources, Inc. (ARI) accepted four sediment samples in good condition on September 20, 2011. The samples were analyzed for grain size as requested.

A copy of these reports and all supporting data will remain on file with ARI. Please feel free to contact me if you have any questions or require any additional information.

Respectfully,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

Enclosures

cc: File TN10

MDH/esj



4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

TN10

# CHAIN OF CUSTODY RECORD

Page ___ of ___


**Specialty Analytical**
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336


Contact Person/Project Manager: Nikki Bippes
Company:
Address: Please send results via email

Phone: Fax:

Project No.: Project Name:

Project Site Location OR: WA: Other:

Invoice To: P.O. No.:

Collected By:

Signature:

Printed:

Signature:

Printed:

Turn Around Time

☐ Normal 5-7 Business Days

☐ Rush _____

Specify

**Rush Analyses Must Be Scheduled With The Lab In Advance**

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: grain size D422 | Analyses: Wilhydrometer | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|
| 9/7/11 | 1245 | 1109060-01 | Sed | 1 | X | | | |
| " | 1230 | -02 | " | 1 | X | | | |
| " | 1145 | -03 | " | 1 | X | | | |
| " | 1130 | -04 | " | 1 | X | | | |
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**For Laboratory Use**

Lab Job No.:
Shipped Via:
Air Bill No.:

Temperature On Receipt ____ °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Relinquished By: | Date | Time | Received By: | Relinquished By: | Date | Time |
|---|---|---|---|---|---|---|
| Company: Specialty | 9/19/11 | 0942 | Company: ARI 9/20/11 @1005 | Company: | | |
| | | | | Received For Lab By: | Date | Time |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Copies: White-Original Yellow-Project File Pink-Customer Copy


Revised: 05/05/2009

Analytical Resources, Incorporated
Analytical Chemists and Consultants

# Cooler Receipt Form

ARI Client: Specialty Analytical
COC No(s): NA
Assigned ARI Job No: TN10

Project Name:
Delivered by: Fed-Ex UPS Courier Hand Delivered Other:
Tracking No: ~~7500~~ 7952 0210 2080 NA

**Preliminary Examination Phase:**

| | | |
|---|---|---|
| Were intact, properly signed and dated custody seals attached to the outside of to cooler? | YES | NO |
| Were custody papers included with the cooler? | YES | NO |
| Were custody papers properly filled out (ink, signed, etc.) | YES | NO |
| Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 3.1 | | |

If cooler temperature is out of compliance fill out form 00070F — Temp Gun ID# 90941619

Cooler Accepted by: JM Date: 9/20/11 Time: 105

***Complete custody forms and attach all shipping documents***

## Log-In Phase:

| | | | |
|---|---|---|---|
| Was a temperature blank included in the cooler? | | YES | NO |
| What kind of packing material was used? | Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: | | |
| Was sufficient ice used (if appropriate)? | NA | YES | NO |
| Were all bottles sealed in individual plastic bags? | | YES | NO |
| Did all bottles arrive in good condition (unbroken)? | | YES | NO |
| Were all bottle labels complete and legible? | | YES | NO |
| Did the number of containers listed on COC match with the number of containers received? | | YES | NO |
| Did all bottle labels and tags agree with custody papers? | | YES AV | NO AV |
| Were all bottles used correct for the requested analyses? | | YES | NO |
| Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) | NA | YES | NO |
| Were all VOC vials free of air bubbles? | NA | YES | NO |
| Was sufficient amount of sample sent in each bottle? | | YES | NO |
| Date VOC Trip Blank was made at ARI | NA | | |

Was Sample Split by ARI: NA YES Date/Time: Equipment: Split by:

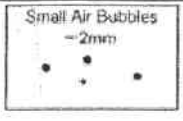
Samples Logged by: AV Date: 9/20/11 Time: 1110

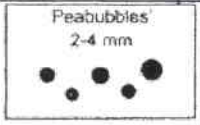
***** Notify Project Manager of discrepancies or concerns *****

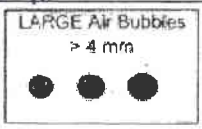
| Sample ID on Bottle | Sample ID on COC | Sample ID on Bottle | Sample ID on COC |
|---|---|---|---|
| SED-01 | 1109060-01 AV | | |
| SED-02 | 1109060-02 AV | | |
| SED-03 | 1109060-03 AV | | |
| SED-04 | 1109060-04 AV | | |

***Additional Notes, Discrepancies, & Resolutions:***

By: AV Date: 9/20/11




| |
|---|
| Small → "sm" |
| Peabubbles → "pb" |
| Large → "lg" |
| Headspace → "hs" |



TN10 : 00005

# Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: TN10
Client: Specialty Analytical
Project Event: N/A
Project Name: N/A

| | Sample ID | ARI Lab ID | ARI LIMS ID | Matrix | Sample Date/Time | VTSR |
|---|---|---|---|---|---|---|
| 1. | 1109060-01 | TN10A | 11-20481 | Sediment | 09/07/11 12:45 | 09/20/11 10:15 |
| 2. | 1109060-02 | TN10B | 11-20482 | Sediment | 09/07/11 12:30 | 09/20/11 10:15 |
| 3. | 1109060-03 | TN10C | 11-20483 | Sediment | 09/07/11 11:45 | 09/20/11 10:15 |
| 4. | 1109060-04 | TN10D | 11-20484 | Sediment | 09/07/11 11:30 | 09/20/11 10:15 |

Printed 09/20/11

Analytical Resources, Incorporated
Analytical Chemists and Consultants

**Client**: Specialty Analytical **ARI Job No.:** TN10

Case Narrative

1. Four samples were submitted for analysis on September 20, 2011, and were in good condition.
2. The samples were submitted for grain size distribution according to ASTM D422. The samples were prepared according to ASTM D421.
3. An assumed specific gravity of 2.65 was used in the hydrometer calculations.
4. A standard milkshake mixer type device was used to disperse the fine fraction sample.
5. One sample from another job was chosen for triplicate analysis. The triplicate data can be found on the QA summary table.
6. The data is provided in summary tables and plots.
7. There were no further anomalies in the samples or test method.

Released by: _____ Date: 10/3/11
Title: *Geotechnical Division Manager*

Reviewed by: _____ Date: 10-3-2011
Title: *Geotechnical Laboratory Supervisor*

Specialty Analytical

Percent Finer (Passing) Than the Indicated Size

| Sieve Size (microns) | 3" | 2" | 1 1/2" | 1" | 3/4" | 1/2" | 3/8" | #4 (4750) | #10 (2000) | #20 (850) | #40 (425) | #60 (250) | #100 (150) | #200 (75) | 32 | 22 | 13 | 9 | 7 | 3.2 | 1.3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TK35 S | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 99.8 | 92.2 | 61.8 | 22.9 | 6.9 | 6.0 | 4.1 | 3.7 | 2.8 | 1.8 | 1.4 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 99.8 | 92.2 | 61.1 | 21.4 | 6.9 | 6.0 | 4.6 | 3.7 | 3.2 | 1.8 | 1.4 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 99.8 | 91.8 | 61.2 | 23.3 | 7.8 | 6.4 | 4.6 | 4.6 | 3.2 | 1.8 | 1.4 |
| 1109060-01 | 100.0 | 100.0 | 100.0 | 100.0 | 97.5 | 89.4 | 82.0 | 72.1 | 66.8 | 64.2 | 52.7 | 19.8 | 4.9 | 1.6 | 1.2 | 1.2 | 1.2 | 1.2 | 1.0 | 0.5 | 0.5 |
| 1109060-02 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 94.4 | 87.7 | 77.2 | 65.9 | 58.4 | 52.7 | 47.3 | 38.7 | 18.1 | 8.4 | 6.3 | 5.3 | 4.2 | 3.5 | 1.8 | 1.4 |
| 1109060-03 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 99.5 | 98.8 | 97.8 | 87.7 | 49.8 | 25.0 | 12.8 | 9.6 | 8.0 | 6.4 | 4.3 | 3.2 |
| 1109060-04 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 99.7 | 99.2 | 98.4 | 97.4 | 93.0 | 73.9 | 43.4 | 34.0 | 22.0 | 17.0 | 13.2 | 8.2 | 5.5 |

Testing performed according to ASTM D421/D422

TN10

TNS - 5555

Specialty Analytical

Percent Retained in Each Size Fraction

| Description | %Coarse Gravel | | | | % Gravel | | | % Coarse Sand | % Medium Sand | | % Fine Sand | | | % Very Coarse Silt | % Coarse Silt | % Medium Silt | % Fine Silt | % Fine Silt | % Very Fine Silt | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Particle Size (microns) | 3-2" | 2-1 1/2" | 1 1/2"-1" | 1-3/4" | 3/4-1/2" | 1/2-3/8" | 3/8"-4750 | 4750-2000 | 2000-850 | 850-425 | 425-250 | 250-150 | 150-75 | 75-32 | 32-22 | 22-13 | 13-9 | 9-7 | 7-3.2 | <3.2 |
| TK35 S | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 7.6 | 30.4 | 38.8 | 16.1 | 0.9 | 1.8 | 0.5 | 0.9 | 0.9 | 1.8 |
| | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 7.5 | 31.1 | 39.7 | 14.6 | 0.9 | 1.4 | 0.9 | 0.5 | 1.4 | 1.8 |
| | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 8.0 | 30.5 | 37.9 | 15.5 | 1.4 | 1.8 | 0.0 | 1.4 | 1.4 | 1.8 |
| 1109060-01 | 0.0 | 0.0 | 0.0 | 2.5 | 8.1 | 7.4 | 9.9 | 5.3 | 2.6 | 11.4 | 32.9 | 15.0 | 3.3 | 0.4 | 0.0 | 0.0 | 0.0 | 0.2 | 0.5 | 0.5 |
| 1109060-02 | 0.0 | 0.0 | 0.0 | 0.0 | 5.6 | 6.6 | 10.5 | 11.3 | 7.5 | 5.7 | 5.4 | 8.6 | 20.6 | 9.7 | 2.1 | 1.1 | 1.1 | 0.7 | 1.8 | 1.8 |
| 1109060-03 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.7 | 1.0 | 10.1 | 37.8 | 24.8 | 12.2 | 3.2 | 1.6 | 1.6 | 2.1 | 4.3 |
| 1109060-04 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.4 | 0.8 | 0.9 | 4.4 | 19.1 | 30.5 | 9.3 | 12.1 | 4.9 | 3.8 | 4.9 | 8.2 |

| | | | |
|---|---|---|---|
| Client: | Specialty Analytical | | |
| ARI Triplicate Sample ID: | TK35 S | Batch No.: | TN10-01 |
| | | Page: | 1 of 1 |

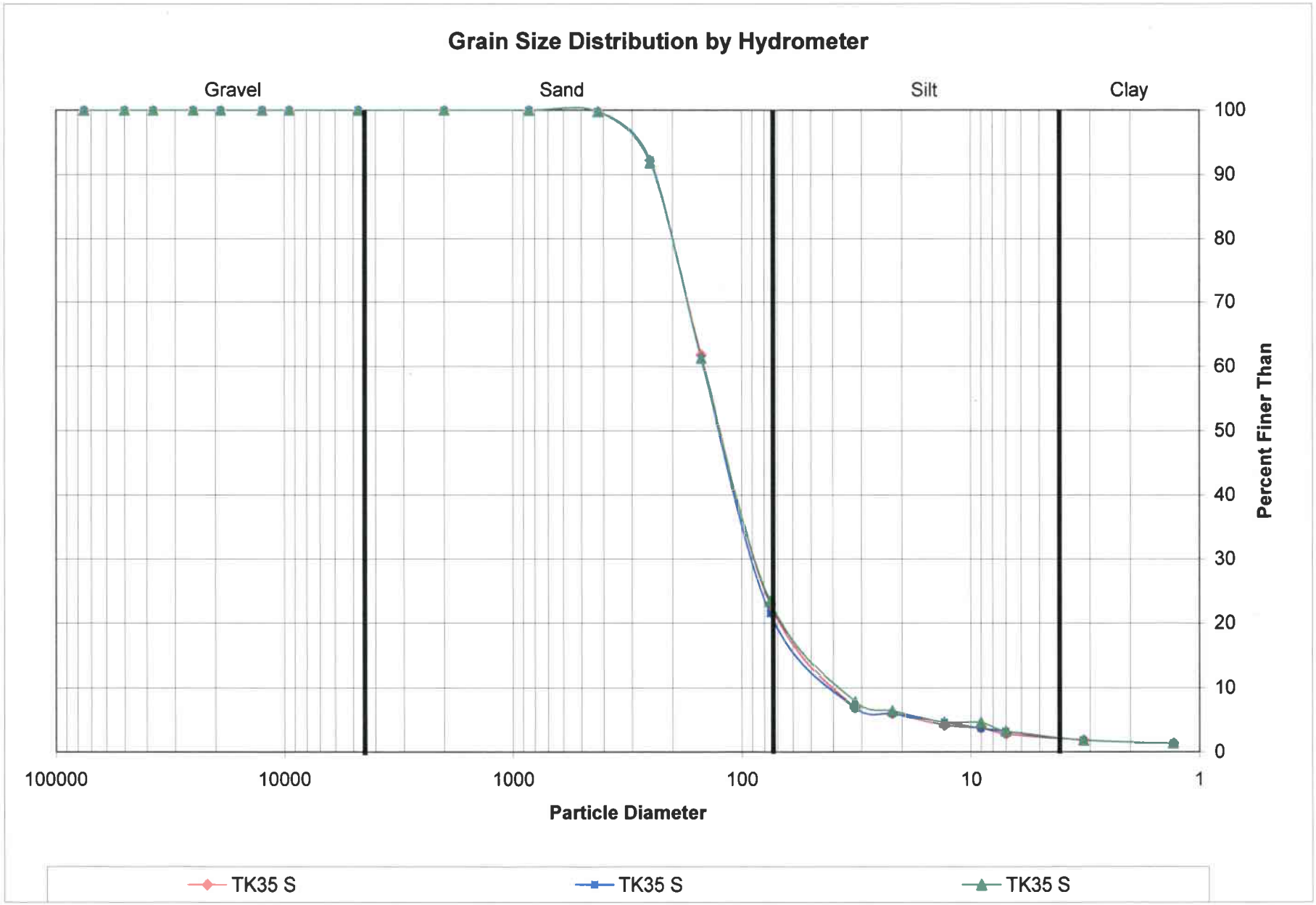
Relative Standard Deviation, By Size

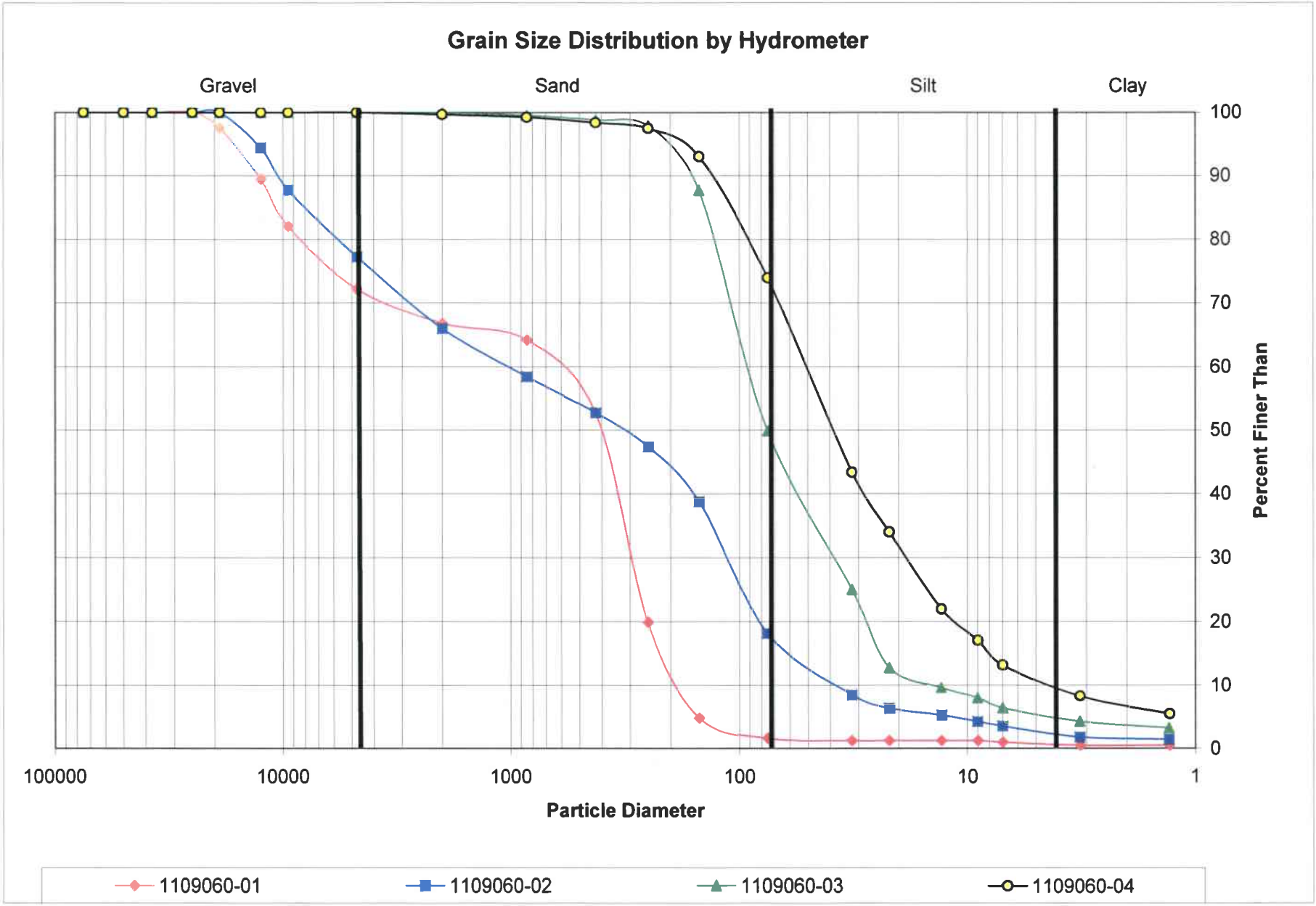
| Sample ID | 75000 | 50000 | 37500 | 25000 | 19000 | 12500 | 9500 | 4750 | 2000 | 850 | 425 | 250 | 150 | 75 | 32 | 22 | 13 | 9 | 7 | 3.2 | 1.3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TK35 S | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 99.8 | 92.2 | 61.8 | 22.9 | 6.9 | 6.0 | 4.1 | 3.7 | 2.8 | 1.8 | 1.4 |
| TK35 S | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 99.8 | 92.2 | 61.1 | 21.4 | 6.9 | 6.0 | 4.6 | 3.7 | 3.2 | 1.8 | 1.4 |
| TK35 S | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 99.8 | 91.8 | 61.2 | 23.3 | 7.8 | 6.4 | 4.6 | 4.6 | 3.2 | 1.8 | 1.4 |
| AVE | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 99.99 | 99.77 | 92.06 | 61.37 | 22.57 | 7.20 | 6.13 | 4.44 | 3.98 | 3.06 | 1.84 | 1.38 |
| STDEV | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.24 | 0.34 | 1.00 | 0.54 | 0.27 | 0.26 | 0.54 | 0.26 | 0.00 | 0.00 |
| %RSD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.26 | 0.56 | 4.44 | 7.49 | 4.45 | 5.90 | 13.45 | 8.59 | 0.19 | 0.19 |

This Triplicate applies to the Batch Containing the Following Samples

| Sample ID | Date Sampled | Date Set up | Date Started | Date Complete | Data Qualifiers |
|---|---|---|---|---|---|
| TK35 S | 8/29/2011 | 9/1/2011 | 9/6/2011 | 9/8/2011 | |
| | 8/29/2011 | 9/1/2011 | 9/6/2011 | 9/8/2011 | |
| | 8/29/2011 | 9/1/2011 | 9/6/2011 | 9/8/2011 | |
| 1109060-01 | 9/7/2011 | 9/21/2011 | 9/29/2011 | 10/3/2011 | |
| 1109060-02 | 9/7/2011 | 9/21/2011 | 9/29/2011 | 10/3/2011 | |
| 1109060-03 | 9/7/2011 | 9/21/2011 | 9/29/2011 | 10/3/2011 | |
| 1109060-04 | 9/7/2011 | 9/21/2011 | 9/29/2011 | 10/3/2011 | |

TESTING · SOIL


Grain Size Distribution by Hydrometer
Gravel
Sand
Silt
Clay
100
90
80
70
60
50
40
30
20
10
0
Percent Finer Than
100000
10000
1000
100
10
1
Particle Diameter
TK35 S
TK35 S
TK35 S


Grain Size Distribution by Hydrometer
Gravel
Sand
Silt
Clay
100
90
80
70
60
50
40
30
20
10
0
Percent Finer Than
100000
10000
1000
100
10
1
Particle Diameter
1109060-01
1109060-02
1109060-03
1109060-04

# Specialty Analytical

11711 SE Capps Road
Clackamas, OR 97015
(503) 607-1331
Fax (503) 607-1336


September 22, 2011

Christina Johnson
Maul, Foster & Alongi
7223 NE Hazel Dell Avenue
Suite B
Vancouver, WA 98665

TEL: (360) 694-2691
FAX: (360) 906-1958

RE: Port of Camas / 0229.04.03

Order No.: 1109062

Dear Christina Johnson:

Specialty Analytical received 36 samples on 9/8/2011 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Cindy Hillyard
Project Manager

Technical Review

## Specialty Analytical

**Date:** *22-Sep-11*

**CLIENT:** Maul, Foster & Alongi
**Project:** Port of Camas / 0229.04.03
**Lab Order:** 1109062

# CASE NARRATIVE

The Laboratory Control Sample recovery of 1,1-Dichloroethene for Volatile Organic Compounds by EPA 8260B was outside laboratory control limits (high). All associated samples were non-detect for this compound.

Specialty Analytical Sample No.'s 1109062-13, -14, -18, and -19 were analyzed for PCB Aroclor's by EPA 8082. The samples contain Aroclor 1260 plus additional peaks that appear to be from a different Aroclor, but are unidentifiable. Additional analysis may be required to identify and quantify these compounds.

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-5-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 8:10:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-01 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 20.0 | | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | ND | 66.7 | | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 90.8 | 50-150 | | %REC | 1 | 9/13/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 4.93 | 2.30 | | mg/Kg-dry | 1 | 9/9/2011 5:31:36 PM |
| Barium | 214 | 1.15 | | mg/Kg-dry | 1 | 9/9/2011 5:31:36 PM |
| Cadmium | ND | 0.115 | | mg/Kg-dry | 1 | 9/9/2011 5:31:36 PM |
| Chromium | 17.7 | 0.575 | | mg/Kg-dry | 1 | 9/9/2011 5:31:36 PM |
| Lead | 3.20 | 2.30 | | mg/Kg-dry | 1 | 9/9/2011 5:31:36 PM |
| Selenium | ND | 2.30 | | mg/Kg-dry | 1 | 9/9/2011 5:31:36 PM |
| Silver | ND | 2.30 | | mg/Kg-dry | 1 | 9/9/2011 5:31:36 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.232 | 0.0108 | | mg/Kg-dry | 1 | 9/12/2011 |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-6-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 8:25:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-02 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 18.5 | | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | ND | 61.6 | | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 91.0 | 50-150 | | %REC | 1 | 9/13/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 4.55 | 1.76 | | mg/Kg-dry | 1 | 9/9/2011 5:36:32 PM |
| Barium | 166 | 0.880 | | mg/Kg-dry | 1 | 9/9/2011 5:36:32 PM |
| Cadmium | ND | 0.0880 | | mg/Kg-dry | 1 | 9/9/2011 5:36:32 PM |
| Chromium | 17.6 | 0.440 | | mg/Kg-dry | 1 | 9/9/2011 5:36:32 PM |
| Lead | ND | 1.76 | | mg/Kg-dry | 1 | 9/9/2011 5:36:32 PM |
| Selenium | ND | 1.76 | | mg/Kg-dry | 1 | 9/9/2011 5:36:32 PM |
| Silver | 1.84 | 1.76 | | mg/Kg-dry | 1 | 9/9/2011 5:36:32 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0181 | 0.0114 | | mg/Kg-dry | 1 | 9/12/2011 |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-8-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 8:30:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-03 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 17.7 | | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | ND | 59.0 | | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 94.8 | 50-150 | | %REC | 1 | 9/13/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 3.75 | 1.64 | | mg/Kg-dry | 1 | 9/9/2011 5:41:29 PM |
| Barium | 180 | 0.819 | | mg/Kg-dry | 1 | 9/9/2011 5:41:29 PM |
| Cadmium | ND | 0.0819 | | mg/Kg-dry | 1 | 9/9/2011 5:41:29 PM |
| Chromium | 16.4 | 0.409 | | mg/Kg-dry | 1 | 9/9/2011 5:41:29 PM |
| Lead | 2.68 | 1.64 | | mg/Kg-dry | 1 | 9/9/2011 5:41:29 PM |
| Selenium | ND | 1.64 | | mg/Kg-dry | 1 | 9/9/2011 5:41:29 PM |
| Silver | ND | 1.64 | | mg/Kg-dry | 1 | 9/9/2011 5:41:29 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0247 | 0.0114 | | mg/Kg-dry | 1 | 9/12/2011 |
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,1,1-Trichloroethane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,1,2-Trichloroethane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,1-Dichloroethane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,1-Dichloroethene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,1-Dichloropropene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,2,3-Trichlorobenzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,2,3-Trichloropropane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,2,4-Trichlorobenzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,2,4-Trimethylbenzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,2-Dibromoethane | ND | 5.90 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,2-Dichlorobenzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,2-Dichloroethane | ND | 5.90 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,2-Dichloropropane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,3,5-Trimethylbenzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,3-Dichlorobenzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,3-Dichloropropane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 1,4-Dichlorobenzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 2,2-Dichloropropane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 2-Butanone | ND | 23.6 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 2-Chlorotoluene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 2-Hexanone | ND | 23.6 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 4-Chlorotoluene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-8-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 8:30:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-03 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 4-Isopropyltoluene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| 4-Methyl-2-pentanone | ND | 23.6 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Acetone | 160 | 59.0 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Benzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Bromobenzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Bromochloromethane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Bromodichloromethane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Bromoform | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Bromomethane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Carbon disulfide | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Carbon tetrachloride | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Chlorobenzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Chloroethane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Chloroform | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Chloromethane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| cis-1,2-Dichloroethene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| cis-1,3-Dichloropropene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Dibromochloromethane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Dibromomethane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Dichlorodifluoromethane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Ethylbenzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Hexachlorobutadiene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Isopropylbenzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| m,p-Xylene | ND | 23.6 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Methyl tert-butyl ether | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Methylene chloride | ND | 59.0 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| n-Butylbenzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| n-Propylbenzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Naphthalene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| o-Xylene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| sec-Butylbenzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Styrene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| tert-Butylbenzene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Tetrachloroethene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Toluene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| trans-1,2-Dichloroethene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| trans-1,3-Dichloropropene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Trichloroethene | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Trichlorofluoromethane | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Vinyl chloride | ND | 11.8 | | µg/Kg-dry | 1 | 9/9/2011 3:30:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 97.5 | 71.5-112 | | %REC | 1 | 9/9/2011 3:30:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-8-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 8:30:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-03 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| Surr: 4-Bromofluorobenzene | 90.6 | 75.7-122 | | %REC | 1 | 9/9/2011 3:30:00 PM |
| Surr: Dibromofluoromethane | 109 | 64.3-124 | | %REC | 1 | 9/9/2011 3:30:00 PM |
| Surr: Toluene-d8 | 117 | 74.9-120 | | %REC | 1 | 9/9/2011 3:30:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-7-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 8:45:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-04 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 33.0 | 20.8 | A1 | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | 154 | 69.4 | A2 | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 94.5 | 50-150 | | %REC | 1 | 9/13/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 6.71 | 2.04 | | mg/Kg-dry | 1 | 9/9/2011 6:06:38 PM |
| Barium | 230 | 1.02 | | mg/Kg-dry | 1 | 9/9/2011 6:06:38 PM |
| Cadmium | ND | 0.102 | | mg/Kg-dry | 1 | 9/9/2011 6:06:38 PM |
| Chromium | 20.1 | 0.511 | | mg/Kg-dry | 1 | 9/9/2011 6:06:38 PM |
| Lead | 6.98 | 2.04 | | mg/Kg-dry | 1 | 9/9/2011 6:06:38 PM |
| Selenium | ND | 2.04 | | mg/Kg-dry | 1 | 9/9/2011 6:06:38 PM |
| Silver | 2.22 | 2.04 | | mg/Kg-dry | 1 | 9/9/2011 6:06:38 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0404 | 0.0134 | | mg/Kg-dry | 1 | 9/12/2011 |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-3-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 9:00:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-05 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 18.2 | | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | ND | 60.7 | | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 94.0 | 50-150 | | %REC | 1 | 9/13/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 5.89 | 1.73 | | mg/Kg-dry | 1 | 9/9/2011 6:11:33 PM |
| Barium | 158 | 0.867 | | mg/Kg-dry | 1 | 9/9/2011 6:11:33 PM |
| Cadmium | ND | 0.0867 | | mg/Kg-dry | 1 | 9/9/2011 6:11:33 PM |
| Chromium | 18.2 | 0.433 | | mg/Kg-dry | 1 | 9/9/2011 6:11:33 PM |
| Lead | ND | 1.73 | | mg/Kg-dry | 1 | 9/9/2011 6:11:33 PM |
| Selenium | ND | 1.73 | | mg/Kg-dry | 1 | 9/9/2011 6:11:33 PM |
| Silver | ND | 1.73 | | mg/Kg-dry | 1 | 9/9/2011 6:11:33 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0329 | 0.0138 | | mg/Kg-dry | 1 | 9/12/2011 |
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,1,1-Trichloroethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,1,2-Trichloroethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,1-Dichloroethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,1-Dichloroethene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,1-Dichloropropene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,2,3-Trichlorobenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,2,3-Trichloropropane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,2,4-Trichlorobenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,2,4-Trimethylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,2-Dibromoethane | ND | 6.07 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,2-Dichlorobenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,2-Dichloroethane | ND | 6.07 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,2-Dichloropropane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,3,5-Trimethylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,3-Dichlorobenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,3-Dichloropropane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 1,4-Dichlorobenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 2,2-Dichloropropane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 2-Butanone | ND | 24.3 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 2-Chlorotoluene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 2-Hexanone | ND | 24.3 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 4-Chlorotoluene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-3-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 9:00:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-05 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 4-Isopropyltoluene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| 4-Methyl-2-pentanone | ND | 24.3 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Acetone | ND | 60.7 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Benzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Bromobenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Bromochloromethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Bromodichloromethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Bromoform | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Bromomethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Carbon disulfide | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Carbon tetrachloride | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Chlorobenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Chloroethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Chloroform | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Chloromethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| cis-1,2-Dichloroethene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| cis-1,3-Dichloropropene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Dibromochloromethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Dibromomethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Dichlorodifluoromethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Ethylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Hexachlorobutadiene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Isopropylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| m,p-Xylene | ND | 24.3 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Methyl tert-butyl ether | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Methylene chloride | ND | 60.7 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| n-Butylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| n-Propylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Naphthalene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| o-Xylene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| sec-Butylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Styrene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| tert-Butylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Tetrachloroethene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Toluene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| trans-1,2-Dichloroethene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| trans-1,3-Dichloropropene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Trichloroethene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Trichlorofluoromethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Vinyl chloride | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:06:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 93.8 | 71.5-112 | | %REC | 1 | 9/9/2011 4:06:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-3-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 9:00:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-05 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| Surr: 4-Bromofluorobenzene | 92.3 | 75.7-122 | | %REC | 1 | 9/9/2011 4:06:00 PM |
| Surr: Dibromofluoromethane | 109 | 64.3-124 | | %REC | 1 | 9/9/2011 4:06:00 PM |
| Surr: Toluene-d8 | 112 | 74.9-120 | | %REC | 1 | 9/9/2011 4:06:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-4-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 8:50:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-06 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 26.1 | 18.4 | A1 | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | 180 | 61.2 | A2 | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 93.0 | 50-150 | | %REC | 1 | 9/13/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 1.42 | 1.27 | | mg/Kg-dry | 1 | 9/9/2011 6:16:29 PM |
| Barium | 73.6 | 0.637 | | mg/Kg-dry | 1 | 9/9/2011 6:16:29 PM |
| Cadmium | ND | 0.0637 | | mg/Kg-dry | 1 | 9/9/2011 6:16:29 PM |
| Chromium | 6.02 | 0.319 | | mg/Kg-dry | 1 | 9/9/2011 6:16:29 PM |
| Lead | 4.23 | 1.27 | | mg/Kg-dry | 1 | 9/9/2011 6:16:29 PM |
| Selenium | ND | 1.27 | | mg/Kg-dry | 1 | 9/9/2011 6:16:29 PM |
| Silver | 1.73 | 1.27 | | mg/Kg-dry | 1 | 9/9/2011 6:16:29 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.253 | 0.0123 | | mg/Kg-dry | 1 | 9/12/2011 |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-9-2 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 2:15:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-07 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 79.9 | 19.8 | A1 | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | 475 | 66.1 | A2 | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 82.4 | 50-150 | | %REC | 1 | 9/13/2011 |
| **5035A/NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | ND | 5.39 | | mg/Kg-dry | 1 | 9/12/2011 |
| Surr: 4-Bromofluorobenzene | 84.7 | 50-150 | | %REC | 1 | 9/12/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 6.70 | 2.20 | | mg/Kg-dry | 1 | 9/9/2011 6:21:26 PM |
| Barium | 67.4 | 1.10 | | mg/Kg-dry | 1 | 9/9/2011 6:21:26 PM |
| Cadmium | ND | 0.110 | | mg/Kg-dry | 1 | 9/9/2011 6:21:26 PM |
| Chromium | 38.6 | 0.551 | | mg/Kg-dry | 1 | 9/9/2011 6:21:26 PM |
| Lead | 21.0 | 2.20 | | mg/Kg-dry | 1 | 9/9/2011 6:21:26 PM |
| Selenium | ND | 2.20 | | mg/Kg-dry | 1 | 9/9/2011 6:21:26 PM |
| Silver | ND | 2.20 | | mg/Kg-dry | 1 | 9/9/2011 6:21:26 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0662 | 0.0144 | | mg/Kg-dry | 1 | 9/12/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| 1-Methylnaphthalene | ND | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| 2-Methylnaphthalene | ND | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Acenaphthene | ND | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Acenaphthylene | ND | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Anthracene | ND | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Benz(a)anthracene | 15.9 | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Benzo(a)pyrene | 15.0 | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Benzo(b)fluoranthene | 22.0 | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Benzo(g,h,i)perylene | 15.9 | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Benzo(k)fluoranthene | 9.70 | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Chrysene | 14.1 | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Dibenz(a,h)anthracene | ND | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Fluoranthene | 15.9 | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Fluorene | ND | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Indeno(1,2,3-cd)pyrene | 15.9 | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Naphthalene | ND | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Phenanthrene | 30.0 | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Pyrene | 32.6 | 8.82 | | µg/Kg-dry | 1 | 9/15/2011 1:47:00 AM |
| Surr: 2-Fluorobiphenyl | 59.7 | 42.6-128 | | %REC | 1 | 9/15/2011 1:47:00 AM |
| Surr: Nitrobenzene-d5 | 55.8 | 21.7-155 | | %REC | 1 | 9/15/2011 1:47:00 AM |
| Surr: p-Terphenyl-d14 | 72.2 | 44.9-155 | | %REC | 1 | 9/15/2011 1:47:00 AM |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-9-7 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 2:40:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-08 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 19.5 | | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | ND | 64.9 | | mg/Kg-dry | 1 | 9/14/2011 |
| Surr: o-Terphenyl | 95.4 | 50-150 | | %REC | 1 | 9/13/2011 |
| **5035A/NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | ND | 4.42 | | mg/Kg-dry | 1 | 9/12/2011 |
| Surr: 4-Bromofluorobenzene | 79.0 | 50-150 | | %REC | 1 | 9/12/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 5.01 | 2.32 | | mg/Kg-dry | 1 | 9/9/2011 6:26:24 PM |
| Barium | 194 | 1.16 | | mg/Kg-dry | 1 | 9/9/2011 6:26:24 PM |
| Cadmium | ND | 0.116 | | mg/Kg-dry | 1 | 9/9/2011 6:26:24 PM |
| Chromium | 29.6 | 0.580 | | mg/Kg-dry | 1 | 9/9/2011 6:26:24 PM |
| Lead | 3.05 | 2.32 | | mg/Kg-dry | 1 | 9/9/2011 6:26:24 PM |
| Selenium | ND | 2.32 | | mg/Kg-dry | 1 | 9/9/2011 6:26:24 PM |
| Silver | ND | 2.32 | | mg/Kg-dry | 1 | 9/9/2011 6:26:24 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | ND | 0.0125 | | mg/Kg-dry | 1 | 9/12/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| 1-Methylnaphthalene | ND | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| 2-Methylnaphthalene | 10.4 | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Acenaphthene | ND | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Acenaphthylene | ND | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Anthracene | 57.1 | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Benz(a)anthracene | 62.3 | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Benzo(a)pyrene | 32.0 | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Benzo(b)fluoranthene | 17.3 | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Benzo(g,h,i)perylene | 21.6 | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Benzo(k)fluoranthene | ND | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Chrysene | 70.1 | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Dibenz(a,h)anthracene | ND | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Fluoranthene | 69.3 | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Fluorene | 9.52 | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Indeno(1,2,3-cd)pyrene | ND | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Naphthalene | ND | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Phenanthrene | 480 | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Pyrene | 371 | 8.66 | | µg/Kg-dry | 1 | 9/15/2011 2:13:00 AM |
| Surr: 2-Fluorobiphenyl | 36.7 | 42.6-128 | S,MI | %REC | 1 | 9/15/2011 2:13:00 AM |
| Surr: Nitrobenzene-d5 | 12.2 | 21.7-155 | S,MI | %REC | 1 | 9/15/2011 2:13:00 AM |
| Surr: p-Terphenyl-d14 | 66.6 | 44.9-155 | | %REC | 1 | 9/15/2011 2:13:00 AM |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-10-2 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 1:25:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-09 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 19.0 | | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | ND | 63.3 | | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 98.7 | 50-150 | | %REC | 1 | 9/13/2011 |
| **5035A/NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | 23.7 | 6.06 | | mg/Kg-dry | 1 | 9/12/2011 |
| Surr: 4-Bromofluorobenzene | 85.3 | 50-150 | | %REC | 1 | 9/12/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 5.82 | 2.18 | | mg/Kg-dry | 1 | 9/9/2011 6:31:21 PM |
| Barium | 255 | 1.09 | | mg/Kg-dry | 1 | 9/9/2011 6:31:21 PM |
| Cadmium | ND | 0.109 | | mg/Kg-dry | 1 | 9/9/2011 6:31:21 PM |
| Chromium | 16.3 | 0.546 | | mg/Kg-dry | 1 | 9/9/2011 6:31:21 PM |
| Lead | ND | 2.18 | | mg/Kg-dry | 1 | 9/9/2011 6:31:21 PM |
| Selenium | ND | 2.18 | | mg/Kg-dry | 1 | 9/9/2011 6:31:21 PM |
| Silver | 2.32 | 2.18 | | mg/Kg-dry | 1 | 9/9/2011 6:31:21 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0543 | 0.00961 | | mg/Kg-dry | 1 | 9/12/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| 1-Methylnaphthalene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| 2-Methylnaphthalene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Acenaphthene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Acenaphthylene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Anthracene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Benz(a)anthracene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Benzo(a)pyrene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Benzo(b)fluoranthene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Benzo(g,h,i)perylene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Benzo(k)fluoranthene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Chrysene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Dibenz(a,h)anthracene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Fluoranthene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Fluorene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Indeno(1,2,3-cd)pyrene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Naphthalene | 21.1 | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Phenanthrene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Pyrene | ND | 8.44 | | µg/Kg-dry | 1 | 9/14/2011 11:10:00 PM |
| Surr: 2-Fluorobiphenyl | 41.3 | 42.6-128 | S | %REC | 1 | 9/14/2011 11:10:00 PM |
| Surr: Nitrobenzene-d5 | 39.9 | 21.7-155 | | %REC | 1 | 9/14/2011 11:10:00 PM |
| Surr: p-Terphenyl-d14 | 82.9 | 44.9-155 | | %REC | 1 | 9/14/2011 11:10:00 PM |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-10-7 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 1:45:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-10 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 18.0 | | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | ND | 59.9 | | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 93.7 | 50-150 | | %REC | 1 | 9/13/2011 |
| **5035A/NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | ND | 5.85 | | mg/Kg-dry | 1 | 9/12/2011 |
| Surr: 4-Bromofluorobenzene | 86.0 | 50-150 | | %REC | 1 | 9/12/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 7.77 | 1.87 | | mg/Kg-dry | 1 | 9/9/2011 6:36:18 PM |
| Barium | 112 | 0.936 | | mg/Kg-dry | 1 | 9/9/2011 6:36:18 PM |
| Cadmium | ND | 0.0936 | | mg/Kg-dry | 1 | 9/9/2011 6:36:18 PM |
| Chromium | 17.6 | 0.468 | | mg/Kg-dry | 1 | 9/9/2011 6:36:18 PM |
| Lead | ND | 1.87 | | mg/Kg-dry | 1 | 9/9/2011 6:36:18 PM |
| Selenium | ND | 1.87 | | mg/Kg-dry | 1 | 9/9/2011 6:36:18 PM |
| Silver | 2.54 | 1.87 | | mg/Kg-dry | 1 | 9/9/2011 6:36:18 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.128 | 0.0120 | | mg/Kg-dry | 1 | 9/12/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| 1-Methylnaphthalene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| 2-Methylnaphthalene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Acenaphthene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Acenaphthylene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Anthracene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Benz(a)anthracene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Benzo(a)pyrene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Benzo(b)fluoranthene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Benzo(g,h,i)perylene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Benzo(k)fluoranthene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Chrysene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Dibenz(a,h)anthracene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Fluoranthene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Fluorene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Indeno(1,2,3-cd)pyrene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Naphthalene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Phenanthrene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Pyrene | ND | 7.99 | | µg/Kg-dry | 1 | 9/14/2011 11:36:00 PM |
| Surr: 2-Fluorobiphenyl | 33.5 | 42.6-128 | S | %REC | 1 | 9/14/2011 11:36:00 PM |
| Surr: Nitrobenzene-d5 | 36.3 | 21.7-155 | | %REC | 1 | 9/14/2011 11:36:00 PM |
| Surr: p-Terphenyl-d14 | 81.4 | 44.9-155 | | %REC | 1 | 9/14/2011 11:36:00 PM |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-11-2 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 2:50:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-11 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 68.7 | 26.6 | A1 | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | 488 | 88.8 | A2 | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 63.5 | 50-150 | | %REC | 1 | 9/13/2011 |
| **5035A/NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | ND | 7.93 | | mg/Kg-dry | 1 | 9/12/2011 |
| Surr: 4-Bromofluorobenzene | 92.1 | 50-150 | | %REC | 1 | 9/12/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 3.37 | 2.47 | | mg/Kg-dry | 1 | 9/9/2011 6:41:14 PM |
| Barium | 83.4 | 1.23 | | mg/Kg-dry | 1 | 9/9/2011 6:41:14 PM |
| Cadmium | ND | 0.123 | | mg/Kg-dry | 1 | 9/9/2011 6:41:14 PM |
| Chromium | 9.20 | 0.617 | | mg/Kg-dry | 1 | 9/9/2011 6:41:14 PM |
| Lead | 17.1 | 2.47 | | mg/Kg-dry | 1 | 9/9/2011 6:41:14 PM |
| Selenium | ND | 2.47 | | mg/Kg-dry | 1 | 9/9/2011 6:41:14 PM |
| Silver | 2.89 | 2.47 | | mg/Kg-dry | 1 | 9/9/2011 6:41:14 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0533 | 0.0120 | | mg/Kg-dry | 1 | 9/12/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| 1-Methylnaphthalene | ND | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| 2-Methylnaphthalene | ND | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Acenaphthene | ND | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Acenaphthylene | ND | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Anthracene | ND | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Benz(a)anthracene | 15.4 | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Benzo(a)pyrene | 13.0 | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Benzo(b)fluoranthene | 26.1 | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Benzo(g,h,i)perylene | 26.1 | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Benzo(k)fluoranthene | 15.4 | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Chrysene | 27.2 | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Dibenz(a,h)anthracene | ND | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Fluoranthene | 15.4 | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Fluorene | ND | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Indeno(1,2,3-cd)pyrene | 16.6 | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Naphthalene | ND | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Phenanthrene | 13.0 | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Pyrene | 24.9 | 11.8 | | µg/Kg-dry | 1 | 9/15/2011 4:45:00 PM |
| Surr: 2-Fluorobiphenyl | 39.1 | 42.6-128 | S | %REC | 1 | 9/15/2011 4:45:00 PM |
| Surr: Nitrobenzene-d5 | 28.6 | 21.7-155 | | %REC | 1 | 9/15/2011 4:45:00 PM |
| Surr: p-Terphenyl-d14 | 69.2 | 44.9-155 | | %REC | 1 | 9/15/2011 4:45:00 PM |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-11-7 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 3:00:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-12 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 17.8 | | mg/Kg-dry | 1 | 9/13/2011 |
| Lube Oil | ND | 59.2 | | mg/Kg-dry | 1 | 9/13/2011 |
| Surr: o-Terphenyl | 88.1 | 50-150 | | %REC | 1 | 9/13/2011 |
| **5035A/NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | ND | 3.48 | | mg/Kg-dry | 1 | 9/12/2011 |
| Surr: 4-Bromofluorobenzene | 89.5 | 50-150 | | %REC | 1 | 9/12/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 4.75 | 1.97 | | mg/Kg-dry | 1 | 9/9/2011 6:46:13 PM |
| Barium | 173 | 0.987 | | mg/Kg-dry | 1 | 9/9/2011 6:46:13 PM |
| Cadmium | ND | 0.0987 | | mg/Kg-dry | 1 | 9/9/2011 6:46:13 PM |
| Chromium | 6.59 | 0.494 | | mg/Kg-dry | 1 | 9/9/2011 6:46:13 PM |
| Lead | ND | 1.97 | | mg/Kg-dry | 1 | 9/9/2011 6:46:13 PM |
| Selenium | ND | 1.97 | | mg/Kg-dry | 1 | 9/9/2011 6:46:13 PM |
| Silver | 5.03 | 1.97 | | mg/Kg-dry | 1 | 9/9/2011 6:46:13 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0614 | 0.00802 | | mg/Kg-dry | 1 | 9/12/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| 1-Methylnaphthalene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| 2-Methylnaphthalene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Acenaphthene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Acenaphthylene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Anthracene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Benz(a)anthracene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Benzo(a)pyrene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Benzo(b)fluoranthene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Benzo(g,h,i)perylene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Benzo(k)fluoranthene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Chrysene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Dibenz(a,h)anthracene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Fluoranthene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Fluorene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Indeno(1,2,3-cd)pyrene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Naphthalene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Phenanthrene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Pyrene | ND | 7.90 | | µg/Kg-dry | 1 | 9/15/2011 12:02:00 AM |
| Surr: 2-Fluorobiphenyl | 26.8 | 42.6-128 | S | %REC | 1 | 9/15/2011 12:02:00 AM |
| Surr: Nitrobenzene-d5 | 27.3 | 21.7-155 | | %REC | 1 | 9/15/2011 12:02:00 AM |
| Surr: p-Terphenyl-d14 | 85.3 | 44.9-155 | | %REC | 1 | 9/15/2011 12:02:00 AM |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SP-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 9:00:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-13 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-HCID** | | **NWHCID** | | | | Analyst: **jrp** |
| Gasoline | ND | 22.7 | | mg/Kg-dry | 1 | 9/9/2011 |
| Mineral Spirits | ND | 22.7 | | mg/Kg-dry | 1 | 9/9/2011 |
| Kerosene | ND | 56.7 | | mg/Kg-dry | 1 | 9/9/2011 |
| Diesel | Diesel | 56.7 | | mg/Kg-dry | 1 | 9/9/2011 |
| Lube Oil | Lube Oil | 113 | | mg/Kg-dry | 1 | 9/9/2011 |
| Surr: BFB | 94.6 | 50-150 | | %REC | 1 | 9/9/2011 |
| Surr: o-Terphenyl | 93.9 | 50-150 | | %REC | 1 | 9/9/2011 |
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **kh** |
| Diesel | ND | 17.0 | A3 | mg/Kg-dry | 1 | 9/16/2011 |
| Lube Oil | 1010 | 56.7 | | mg/Kg-dry | 1 | 9/16/2011 |
| Surr: o-Terphenyl | 87.4 | 50-150 | | %REC | 1 | 9/16/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 5.52 | 1.53 | | mg/Kg-dry | 1 | 9/9/2011 8:56:01 PM |
| Barium | 76.5 | 0.766 | B | mg/Kg-dry | 1 | 9/9/2011 8:56:01 PM |
| Cadmium | ND | 0.0766 | | mg/Kg-dry | 1 | 9/9/2011 8:56:01 PM |
| Chromium | 8.39 | 0.383 | | mg/Kg-dry | 1 | 9/9/2011 8:56:01 PM |
| Lead | 9.33 | 1.53 | | mg/Kg-dry | 1 | 9/9/2011 8:56:01 PM |
| Selenium | ND | 1.53 | | mg/Kg-dry | 1 | 9/9/2011 8:56:01 PM |
| Silver | 2.32 | 1.53 | | mg/Kg-dry | 1 | 9/9/2011 8:56:01 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0277 | 0.0114 | | mg/Kg-dry | 1 | 9/12/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| 1-Methylnaphthalene | ND | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| 2-Methylnaphthalene | ND | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Acenaphthene | ND | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Acenaphthylene | ND | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Anthracene | 8.31 | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Benz(a)anthracene | 15.9 | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Benzo(a)pyrene | 36.3 | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Benzo(b)fluoranthene | 58.2 | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Benzo(g,h,i)perylene | 53.7 | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Benzo(k)fluoranthene | 62.7 | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Chrysene | 37.8 | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Dibenz(a,h)anthracene | ND | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Fluoranthene | 24.2 | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Fluorene | ND | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Indeno(1,2,3-cd)pyrene | 26.5 | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Naphthalene | ND | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Phenanthrene | 15.9 | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SP-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 9:00:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-13 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| Pyrene | 37.8 | 7.56 | | µg/Kg-dry | 1 | 9/15/2011 5:11:00 PM |
| Surr: 2-Fluorobiphenyl | 69.2 | 42.6-128 | | %REC | 1 | 9/15/2011 5:11:00 PM |
| Surr: Nitrobenzene-d5 | 57.6 | 21.7-155 | | %REC | 1 | 9/15/2011 5:11:00 PM |
| Surr: p-Terphenyl-d14 | 87.3 | 44.9-155 | | %REC | 1 | 9/15/2011 5:11:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.378 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | 0.378 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | 0.378 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | 0.378 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | 0.378 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1254 | ND | 0.378 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | 17.4 | 0.378 | CN | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | 0.378 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | 0.378 | | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 77.0 | 56.5-130 | | %REC | 1 | 9/12/2011 |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SP-2 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 9:30:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-14 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-HCID** | | **NWHCID** | | | | Analyst: **jrp** |
| Gasoline | ND | 20.8 | | mg/Kg-dry | 1 | 9/9/2011 |
| Mineral Spirits | ND | 20.8 | | mg/Kg-dry | 1 | 9/9/2011 |
| Kerosene | ND | 52.0 | | mg/Kg-dry | 1 | 9/9/2011 |
| Diesel | ND | 52.0 | | mg/Kg-dry | 1 | 9/9/2011 |
| Lube Oil | Lube Oil | 104 | | mg/Kg-dry | 1 | 9/9/2011 |
| Surr: BFB | 83.4 | 50-150 | | %REC | 1 | 9/9/2011 |
| Surr: o-Terphenyl | 83.5 | 50-150 | | %REC | 1 | 9/9/2011 |
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **kh** |
| Diesel | 26.7 | 15.6 | | mg/Kg-dry | 1 | 9/21/2011 |
| Lube Oil | 218 | 52.0 | | mg/Kg-dry | 1 | 9/21/2011 |
| Surr: o-Terphenyl | 102 | 50-150 | | %REC | 1 | 9/21/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 4.44 | 1.18 | | mg/Kg-dry | 1 | 9/9/2011 9:21:17 PM |
| Barium | 70.1 | 0.591 | B | mg/Kg-dry | 1 | 9/9/2011 9:21:17 PM |
| Cadmium | ND | 0.0591 | | mg/Kg-dry | 1 | 9/9/2011 9:21:17 PM |
| Chromium | 9.77 | 0.296 | | mg/Kg-dry | 1 | 9/9/2011 9:21:17 PM |
| Lead | 18.8 | 1.18 | | mg/Kg-dry | 1 | 9/9/2011 9:21:17 PM |
| Selenium | ND | 1.18 | | mg/Kg-dry | 1 | 9/9/2011 9:21:17 PM |
| Silver | 1.77 | 1.18 | | mg/Kg-dry | 1 | 9/9/2011 9:21:17 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0104 | 0.00724 | | mg/Kg-dry | 1 | 9/12/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| 1-Methylnaphthalene | ND | 6.94 | | µg/Kg-dry | 1 | 9/15/2011 5:37:00 PM |
| 2-Methylnaphthalene | ND | 6.94 | | µg/Kg-dry | 1 | 9/15/2011 5:37:00 PM |
| Acenaphthene | ND | 34.7 | Q | µg/Kg-dry | 5 | 9/17/2011 4:53:00 PM |
| Acenaphthylene | ND | 34.7 | Q | µg/Kg-dry | 5 | 9/17/2011 4:53:00 PM |
| Anthracene | ND | 34.7 | Q | µg/Kg-dry | 5 | 9/17/2011 4:53:00 PM |
| Benz(a)anthracene | 257 | 34.7 | | µg/Kg-dry | 5 | 9/17/2011 4:53:00 PM |
| Benzo(a)pyrene | 232 | 34.7 | | µg/Kg-dry | 5 | 9/17/2011 4:53:00 PM |
| Benzo(b)fluoranthene | 336 | 34.7 | | µg/Kg-dry | 5 | 9/17/2011 4:53:00 PM |
| Benzo(g,h,i)perylene | 142 | 34.7 | | µg/Kg-dry | 5 | 9/17/2011 4:53:00 PM |
| Benzo(k)fluoranthene | 173 | 34.7 | | µg/Kg-dry | 5 | 9/17/2011 4:53:00 PM |
| Chrysene | 298 | 34.7 | | µg/Kg-dry | 5 | 9/17/2011 4:53:00 PM |
| Dibenz(a,h)anthracene | ND | 34.7 | Q | µg/Kg-dry | 5 | 9/17/2011 4:53:00 PM |
| Fluoranthene | 267 | 34.7 | | µg/Kg-dry | 5 | 9/17/2011 4:53:00 PM |
| Fluorene | ND | 34.7 | Q | µg/Kg-dry | 5 | 9/17/2011 4:53:00 PM |
| Indeno(1,2,3-cd)pyrene | 139 | 34.7 | | µg/Kg-dry | 5 | 9/17/2011 4:53:00 PM |
| Naphthalene | ND | 6.94 | | µg/Kg-dry | 1 | 9/15/2011 5:37:00 PM |
| Phenanthrene | ND | 34.7 | Q | µg/Kg-dry | 5 | 9/17/2011 4:53:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SP-2 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 9:30:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-14 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| Pyrene | 388 | 34.7 | | µg/Kg-dry | 5 | 9/17/2011 4:53:00 PM |
| Surr: 2-Fluorobiphenyl | 76.2 | 42.6-128 | | %REC | 5 | 9/17/2011 4:53:00 PM |
| Surr: Nitrobenzene-d5 | 43.5 | 21.7-155 | | %REC | 1 | 9/15/2011 5:37:00 PM |
| Surr: p-Terphenyl-d14 | 112 | 44.9-155 | | %REC | 5 | 9/17/2011 4:53:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.347 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | 0.347 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | 0.347 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | 0.347 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | 0.347 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1254 | ND | 0.347 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | 19.4 | 0.347 | CN | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | 0.347 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | 0.347 | | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 92.3 | 56.5-130 | | %REC | 1 | 9/12/2011 |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SP-3 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 10:30:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-15 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-HCID** | | **NWHCID** | | | | Analyst: **jrp** |
| Gasoline | ND | 20.2 | | mg/Kg-dry | 1 | 9/9/2011 |
| Mineral Spirits | ND | 20.2 | | mg/Kg-dry | 1 | 9/9/2011 |
| Kerosene | ND | 50.5 | | mg/Kg-dry | 1 | 9/9/2011 |
| Diesel | ND | 50.5 | | mg/Kg-dry | 1 | 9/9/2011 |
| Lube Oil | Lube Oil | 101 | | mg/Kg-dry | 1 | 9/9/2011 |
| Surr: BFB | 94.4 | 50-150 | | %REC | 1 | 9/9/2011 |
| Surr: o-Terphenyl | 91.0 | 50-150 | | %REC | 1 | 9/9/2011 |
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **kh** |
| Diesel | ND | 15.2 | A3 | mg/Kg-dry | 1 | 9/16/2011 |
| Lube Oil | 164 | 50.5 | | mg/Kg-dry | 1 | 9/16/2011 |
| Surr: o-Terphenyl | 92.8 | 50-150 | | %REC | 1 | 9/16/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 3.55 | 1.37 | | mg/Kg-dry | 1 | 9/9/2011 9:26:16 PM |
| Barium | 65.8 | 0.683 | B | mg/Kg-dry | 1 | 9/9/2011 9:26:16 PM |
| Cadmium | ND | 0.0683 | | mg/Kg-dry | 1 | 9/9/2011 9:26:16 PM |
| Chromium | 6.91 | 0.341 | | mg/Kg-dry | 1 | 9/9/2011 9:26:16 PM |
| Lead | 3.07 | 1.37 | | mg/Kg-dry | 1 | 9/9/2011 9:26:16 PM |
| Selenium | ND | 1.37 | | mg/Kg-dry | 1 | 9/9/2011 9:26:16 PM |
| Silver | 1.73 | 1.37 | | mg/Kg-dry | 1 | 9/9/2011 9:26:16 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0381 | 0.00873 | | mg/Kg-dry | 1 | 9/12/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| 1-Methylnaphthalene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| 2-Methylnaphthalene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Acenaphthene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Acenaphthylene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Anthracene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Benz(a)anthracene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Benzo(a)pyrene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Benzo(b)fluoranthene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Benzo(g,h,i)perylene | 8.08 | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Benzo(k)fluoranthene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Chrysene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Dibenz(a,h)anthracene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Fluoranthene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Fluorene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Indeno(1,2,3-cd)pyrene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Naphthalene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Phenanthrene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SP-3 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 10:30:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-15 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| Pyrene | ND | 6.74 | | µg/Kg-dry | 1 | 9/15/2011 1:21:00 AM |
| Surr: 2-Fluorobiphenyl | 67.0 | 42.6-128 | | %REC | 1 | 9/15/2011 1:21:00 AM |
| Surr: Nitrobenzene-d5 | 55.7 | 21.7-155 | | %REC | 1 | 9/15/2011 1:21:00 AM |
| Surr: p-Terphenyl-d14 | 88.0 | 44.9-155 | | %REC | 1 | 9/15/2011 1:21:00 AM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.336 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | 0.336 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | 0.336 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | 0.336 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | 0.336 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1254 | ND | 0.336 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | ND | 0.336 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | 0.336 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | 0.336 | | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 123 | 56.5-130 | | %REC | 1 | 9/12/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-21-0.5 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 11:40:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-16 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 18.1 | | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | ND | 60.3 | | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 80.1 | 50-150 | | %REC | 1 | 9/15/2011 |
| **NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | ND | 3.02 | | mg/Kg-dry | 1 | 9/9/2011 |
| Surr: 4-Bromofluorobenzene | 64.6 | 50-150 | | %REC | 1 | 9/9/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 8.30 | 1.63 | | mg/Kg-dry | 1 | 9/9/2011 9:31:15 PM |
| Barium | 151 | 0.815 | B | mg/Kg-dry | 1 | 9/9/2011 9:31:15 PM |
| Cadmium | ND | 0.0815 | | mg/Kg-dry | 1 | 9/9/2011 9:31:15 PM |
| Chromium | 21.2 | 0.408 | | mg/Kg-dry | 1 | 9/9/2011 9:31:15 PM |
| Lead | 4.85 | 1.63 | | mg/Kg-dry | 1 | 9/9/2011 9:31:15 PM |
| Selenium | ND | 1.63 | | mg/Kg-dry | 1 | 9/9/2011 9:31:15 PM |
| Silver | 2.54 | 1.63 | | mg/Kg-dry | 1 | 9/9/2011 9:31:15 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0111 | 0.0104 | | mg/Kg-dry | 1 | 9/12/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| 1-Methylnaphthalene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| 2-Methylnaphthalene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Acenaphthene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Acenaphthylene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Anthracene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Benz(a)anthracene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Benzo(a)pyrene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Benzo(b)fluoranthene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Benzo(g,h,i)perylene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Benzo(k)fluoranthene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Chrysene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Dibenz(a,h)anthracene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Fluoranthene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Fluorene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Indeno(1,2,3-cd)pyrene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Naphthalene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Phenanthrene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Pyrene | ND | 8.05 | | µg/Kg-dry | 1 | 9/15/2011 12:28:00 AM |
| Surr: 2-Fluorobiphenyl | 22.7 | 42.6-128 | S | %REC | 1 | 9/15/2011 12:28:00 AM |
| Surr: Nitrobenzene-d5 | 33.8 | 21.7-155 | | %REC | 1 | 9/15/2011 12:28:00 AM |
| Surr: p-Terphenyl-d14 | 89.1 | 44.9-155 | | %REC | 1 | 9/15/2011 12:28:00 AM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-21-0.5 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 11:40:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-16 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,1,1-Trichloroethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,1,2-Trichloroethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,1-Dichloroethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,1-Dichloroethene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,1-Dichloropropene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,2,3-Trichlorobenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,2,3-Trichloropropane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,2,4-Trichlorobenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,2,4-Trimethylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,2-Dibromoethane | ND | 6.03 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,2-Dichlorobenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,2-Dichloroethane | ND | 6.03 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,2-Dichloropropane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,3,5-Trimethylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,3-Dichlorobenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,3-Dichloropropane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 1,4-Dichlorobenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 2,2-Dichloropropane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 2-Butanone | ND | 24.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 2-Chlorotoluene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 2-Hexanone | ND | 24.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 4-Chlorotoluene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 4-Isopropyltoluene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| 4-Methyl-2-pentanone | ND | 24.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Acetone | ND | 60.3 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Benzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Bromobenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Bromochloromethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Bromodichloromethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Bromoform | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Bromomethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Carbon disulfide | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Carbon tetrachloride | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Chlorobenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Chloroethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Chloroform | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Chloromethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| cis-1,2-Dichloroethene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-21-0.5 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 11:40:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-16 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| cis-1,3-Dichloropropene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Dibromochloromethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Dibromomethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Dichlorodifluoromethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Ethylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Hexachlorobutadiene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Isopropylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| m,p-Xylene | ND | 24.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Methyl tert-butyl ether | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Methylene chloride | ND | 60.3 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| n-Butylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| n-Propylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Naphthalene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| o-Xylene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| sec-Butylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Styrene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| tert-Butylbenzene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Tetrachloroethene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Toluene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| trans-1,2-Dichloroethene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| trans-1,3-Dichloropropene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Trichloroethene | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Trichlorofluoromethane | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Vinyl chloride | ND | 12.1 | | µg/Kg-dry | 1 | 9/9/2011 4:42:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 90.5 | 71.5-112 | | %REC | 1 | 9/9/2011 4:42:00 PM |
| Surr: 4-Bromofluorobenzene | 93.3 | 75.7-122 | | %REC | 1 | 9/9/2011 4:42:00 PM |
| Surr: Dibromofluoromethane | 109 | 64.3-124 | | %REC | 1 | 9/9/2011 4:42:00 PM |
| Surr: Toluene-d8 | 118 | 74.9-120 | | %REC | 1 | 9/9/2011 4:42:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.402 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | 0.402 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | 0.402 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | 0.402 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | 0.402 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1254 | ND | 0.402 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | ND | 0.402 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | 0.402 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | 0.402 | | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 57.8 | 56.5-130 | | %REC | 1 | 9/12/2011 |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-22-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 12:00:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-17 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 834 | 16.9 | A1 | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | 1470 | 56.4 | A2 | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 143 | 50-150 | | %REC | 1 | 9/15/2011 |
| **NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | ND | 2.82 | | mg/Kg-dry | 1 | 9/9/2011 |
| Surr: 4-Bromofluorobenzene | 65.7 | 50-150 | | %REC | 1 | 9/9/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 4.88 | 1.82 | | mg/Kg-dry | 1 | 9/9/2011 9:36:27 PM |
| Barium | 163 | 0.909 | B | mg/Kg-dry | 1 | 9/9/2011 9:36:27 PM |
| Cadmium | 0.264 | 0.0909 | | mg/Kg-dry | 1 | 9/9/2011 9:36:27 PM |
| Chromium | 14.5 | 0.455 | | mg/Kg-dry | 1 | 9/9/2011 9:36:27 PM |
| Lead | 4.15 | 1.82 | | mg/Kg-dry | 1 | 9/9/2011 9:36:27 PM |
| Selenium | ND | 1.82 | | mg/Kg-dry | 1 | 9/9/2011 9:36:27 PM |
| Silver | ND | 1.82 | | mg/Kg-dry | 1 | 9/9/2011 9:36:27 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | ND | 0.0188 | | mg/Kg-dry | 1 | 9/14/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| 1-Methylnaphthalene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| 2-Methylnaphthalene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Acenaphthene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Acenaphthylene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Anthracene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Benz(a)anthracene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Benzo(a)pyrene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Benzo(b)fluoranthene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Benzo(g,h,i)perylene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Benzo(k)fluoranthene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Chrysene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Dibenz(a,h)anthracene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Fluoranthene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Fluorene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Indeno(1,2,3-cd)pyrene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Naphthalene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Phenanthrene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Pyrene | ND | 7.52 | | µg/Kg-dry | 1 | 9/15/2011 12:55:00 AM |
| Surr: 2-Fluorobiphenyl | 39.5 | 42.6-128 | S | %REC | 1 | 9/15/2011 12:55:00 AM |
| Surr: Nitrobenzene-d5 | 31.8 | 21.7-155 | | %REC | 1 | 9/15/2011 12:55:00 AM |
| Surr: p-Terphenyl-d14 | 83.5 | 44.9-155 | | %REC | 1 | 9/15/2011 12:55:00 AM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-22-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 12:00:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-17 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,1,1-Trichloroethane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,1,2-Trichloroethane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,1-Dichloroethane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,1-Dichloroethene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,1-Dichloropropene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,2,3-Trichlorobenzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,2,3-Trichloropropane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,2,4-Trichlorobenzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,2,4-Trimethylbenzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,2-Dibromoethane | ND | 5.64 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,2-Dichlorobenzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,2-Dichloroethane | ND | 5.64 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,2-Dichloropropane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,3,5-Trimethylbenzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,3-Dichlorobenzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,3-Dichloropropane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 1,4-Dichlorobenzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 2,2-Dichloropropane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 2-Butanone | ND | 22.5 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 2-Chlorotoluene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 2-Hexanone | ND | 22.5 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 4-Chlorotoluene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 4-Isopropyltoluene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| 4-Methyl-2-pentanone | ND | 22.5 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Acetone | ND | 56.4 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Benzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Bromobenzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Bromochloromethane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Bromodichloromethane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Bromoform | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Bromomethane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Carbon disulfide | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Carbon tetrachloride | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Chlorobenzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Chloroethane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Chloroform | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Chloromethane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| cis-1,2-Dichloroethene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-22-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 12:00:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-17 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| cis-1,3-Dichloropropene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Dibromochloromethane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Dibromomethane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Dichlorodifluoromethane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Ethylbenzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Hexachlorobutadiene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Isopropylbenzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| m,p-Xylene | ND | 22.5 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Methyl tert-butyl ether | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Methylene chloride | ND | 56.4 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| n-Butylbenzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| n-Propylbenzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Naphthalene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| o-Xylene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| sec-Butylbenzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Styrene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| tert-Butylbenzene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Tetrachloroethene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Toluene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| trans-1,2-Dichloroethene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| trans-1,3-Dichloropropene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Trichloroethene | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Trichlorofluoromethane | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Vinyl chloride | ND | 11.3 | | µg/Kg-dry | 1 | 9/9/2011 5:17:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 90.4 | 71.5-112 | | %REC | 1 | 9/9/2011 5:17:00 PM |
| Surr: 4-Bromofluorobenzene | 93.5 | 75.7-122 | | %REC | 1 | 9/9/2011 5:17:00 PM |
| Surr: Dibromofluoromethane | 109 | 64.3-124 | | %REC | 1 | 9/9/2011 5:17:00 PM |
| Surr: Toluene-d8 | 114 | 74.9-120 | | %REC | 1 | 9/9/2011 5:17:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.375 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | 0.375 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | 0.375 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | 0.375 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | 0.375 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1254 | ND | 0.375 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | ND | 0.375 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | 0.375 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | 0.375 | | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 98.1 | 56.5-130 | | %REC | 1 | 9/12/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-23-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 12:15:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-18 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 207 | 15.7 | A1,K | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | 1470 | 52.3 | A2 | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 78.6 | 50-150 | | %REC | 1 | 9/15/2011 |
| **NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | ND | 2.62 | | mg/Kg-dry | 1 | 9/9/2011 |
| Surr: 4-Bromofluorobenzene | 68.9 | 50-150 | | %REC | 1 | 9/9/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 5.12 | 1.34 | | mg/Kg-dry | 1 | 9/9/2011 9:41:26 PM |
| Barium | 65.5 | 0.671 | B | mg/Kg-dry | 1 | 9/9/2011 9:41:26 PM |
| Cadmium | ND | 0.0671 | | mg/Kg-dry | 1 | 9/9/2011 9:41:26 PM |
| Chromium | 9.97 | 0.335 | | mg/Kg-dry | 1 | 9/9/2011 9:41:26 PM |
| Lead | 14.9 | 1.34 | | mg/Kg-dry | 1 | 9/9/2011 9:41:26 PM |
| Selenium | ND | 1.34 | | mg/Kg-dry | 1 | 9/9/2011 9:41:26 PM |
| Silver | 1.76 | 1.34 | | mg/Kg-dry | 1 | 9/9/2011 9:41:26 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0738 | 0.0125 | | mg/Kg-dry | 1 | 9/12/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| 1-Methylnaphthalene | 20.2 | 6.98 | | µg/Kg-dry | 1 | 9/15/2011 6:30:00 PM |
| 2-Methylnaphthalene | 23.0 | 6.98 | | µg/Kg-dry | 1 | 9/15/2011 6:30:00 PM |
| Acenaphthene | ND | 6.98 | | µg/Kg-dry | 1 | 9/15/2011 6:30:00 PM |
| Acenaphthylene | 35.6 | 6.98 | | µg/Kg-dry | 1 | 9/15/2011 6:30:00 PM |
| Anthracene | 71.1 | 6.98 | | µg/Kg-dry | 1 | 9/15/2011 6:30:00 PM |
| Benz(a)anthracene | 66.2 | 34.9 | | µg/Kg-dry | 5 | 9/17/2011 5:20:00 PM |
| Benzo(a)pyrene | 109 | 6.98 | | µg/Kg-dry | 1 | 9/15/2011 6:30:00 PM |
| Benzo(b)fluoranthene | 55.8 | 6.98 | | µg/Kg-dry | 1 | 9/15/2011 6:30:00 PM |
| Benzo(g,h,i)perylene | 21.6 | 6.98 | | µg/Kg-dry | 1 | 9/15/2011 6:30:00 PM |
| Benzo(k)fluoranthene | 66.9 | 6.98 | | µg/Kg-dry | 1 | 9/15/2011 6:30:00 PM |
| Chrysene | 101 | 34.9 | | µg/Kg-dry | 5 | 9/17/2011 5:20:00 PM |
| Dibenz(a,h)anthracene | ND | 6.98 | | µg/Kg-dry | 1 | 9/15/2011 6:30:00 PM |
| Fluoranthene | 41.1 | 6.98 | | µg/Kg-dry | 1 | 9/15/2011 6:30:00 PM |
| Fluorene | 13.2 | 6.98 | | µg/Kg-dry | 1 | 9/15/2011 6:30:00 PM |
| Indeno(1,2,3-cd)pyrene | ND | 6.98 | | µg/Kg-dry | 1 | 9/15/2011 6:30:00 PM |
| Naphthalene | 23.0 | 6.98 | | µg/Kg-dry | 1 | 9/15/2011 6:30:00 PM |
| Phenanthrene | 41.1 | 6.98 | | µg/Kg-dry | 1 | 9/15/2011 6:30:00 PM |
| Pyrene | 94.1 | 34.9 | | µg/Kg-dry | 5 | 9/17/2011 5:20:00 PM |
| Surr: 2-Fluorobiphenyl | 70.5 | 42.6-128 | | %REC | 1 | 9/15/2011 6:30:00 PM |
| Surr: Nitrobenzene-d5 | 57.7 | 21.7-155 | | %REC | 1 | 9/15/2011 6:30:00 PM |
| Surr: p-Terphenyl-d14 | 106 | 44.9-155 | | %REC | 5 | 9/17/2011 5:20:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-23-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 12:15:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-18 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,1,1-Trichloroethane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,1,2-Trichloroethane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,1-Dichloroethane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,1-Dichloroethene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,1-Dichloropropene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,2,3-Trichlorobenzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,2,3-Trichloropropane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,2,4-Trichlorobenzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,2,4-Trimethylbenzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,2-Dibromoethane | ND | 5.23 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,2-Dichlorobenzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,2-Dichloroethane | ND | 5.23 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,2-Dichloropropane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,3,5-Trimethylbenzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,3-Dichlorobenzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,3-Dichloropropane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 1,4-Dichlorobenzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 2,2-Dichloropropane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 2-Butanone | ND | 20.9 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 2-Chlorotoluene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 2-Hexanone | ND | 20.9 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 4-Chlorotoluene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 4-Isopropyltoluene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| 4-Methyl-2-pentanone | ND | 20.9 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Acetone | 52.7 | 52.3 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Benzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Bromobenzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Bromochloromethane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Bromodichloromethane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Bromoform | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Bromomethane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Carbon disulfide | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Carbon tetrachloride | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Chlorobenzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Chloroethane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Chloroform | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Chloromethane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| cis-1,2-Dichloroethene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-23-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 12:15:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-18 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| cis-1,3-Dichloropropene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Dibromochloromethane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Dibromomethane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Dichlorodifluoromethane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Ethylbenzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Hexachlorobutadiene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Isopropylbenzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| m,p-Xylene | ND | 20.9 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Methyl tert-butyl ether | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Methylene chloride | ND | 52.3 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| n-Butylbenzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| n-Propylbenzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Naphthalene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| o-Xylene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| sec-Butylbenzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Styrene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| tert-Butylbenzene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Tetrachloroethene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Toluene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| trans-1,2-Dichloroethene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| trans-1,3-Dichloropropene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Trichloroethene | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Trichlorofluoromethane | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Vinyl chloride | ND | 10.5 | | µg/Kg-dry | 1 | 9/9/2011 5:53:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 93.8 | 71.5-112 | | %REC | 1 | 9/9/2011 5:53:00 PM |
| Surr: 4-Bromofluorobenzene | 93.6 | 75.7-122 | | %REC | 1 | 9/9/2011 5:53:00 PM |
| Surr: Dibromofluoromethane | 107 | 64.3-124 | | %REC | 1 | 9/9/2011 5:53:00 PM |
| Surr: Toluene-d8 | 114 | 74.9-120 | | %REC | 1 | 9/9/2011 5:53:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.348 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | 0.348 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | 0.348 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | 0.348 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | 0.348 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1254 | ND | 0.348 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | 28.6 | 0.348 | CN | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | 0.348 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | 0.348 | | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 63.7 | 56.5-130 | | %REC | 1 | 9/12/2011 |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-24-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 12:30:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-19 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 219 | 16.4 | A1,K | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | 1310 | 54.8 | A2 | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 87.9 | 50-150 | | %REC | 1 | 9/15/2011 |
| **NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | ND | 2.74 | | mg/Kg-dry | 1 | 9/9/2011 |
| Surr: 4-Bromofluorobenzene | 67.8 | 50-150 | | %REC | 1 | 9/9/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 7.13 | 1.96 | | mg/Kg-dry | 1 | 9/9/2011 9:46:25 PM |
| Barium | 95.9 | 0.979 | B | mg/Kg-dry | 1 | 9/9/2011 9:46:25 PM |
| Cadmium | ND | 0.0979 | | mg/Kg-dry | 1 | 9/9/2011 9:46:25 PM |
| Chromium | 13.4 | 0.490 | | mg/Kg-dry | 1 | 9/9/2011 9:46:25 PM |
| Lead | 9.29 | 1.96 | | mg/Kg-dry | 1 | 9/9/2011 9:46:25 PM |
| Selenium | ND | 1.96 | | mg/Kg-dry | 1 | 9/9/2011 9:46:25 PM |
| Silver | 2.29 | 1.96 | | mg/Kg-dry | 1 | 9/9/2011 9:46:25 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0415 | 0.0110 | | mg/Kg-dry | 1 | 9/12/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| 1-Methylnaphthalene | ND | 7.31 | | µg/Kg-dry | 1 | 9/15/2011 6:56:00 PM |
| 2-Methylnaphthalene | 8.77 | 7.31 | | µg/Kg-dry | 1 | 9/15/2011 6:56:00 PM |
| Acenaphthene | ND | 7.31 | | µg/Kg-dry | 1 | 9/15/2011 6:56:00 PM |
| Acenaphthylene | ND | 7.31 | | µg/Kg-dry | 1 | 9/15/2011 6:56:00 PM |
| Anthracene | ND | 7.31 | | µg/Kg-dry | 1 | 9/15/2011 6:56:00 PM |
| Benz(a)anthracene | ND | 36.6 | Q | µg/Kg-dry | 5 | 9/17/2011 6:12:00 PM |
| Benzo(a)pyrene | 40.2 | 36.6 | | µg/Kg-dry | 5 | 9/17/2011 6:12:00 PM |
| Benzo(b)fluoranthene | 43.9 | 36.6 | | µg/Kg-dry | 5 | 9/17/2011 6:12:00 PM |
| Benzo(g,h,i)perylene | ND | 36.6 | Q | µg/Kg-dry | 5 | 9/17/2011 6:12:00 PM |
| Benzo(k)fluoranthene | ND | 36.6 | Q | µg/Kg-dry | 5 | 9/17/2011 6:12:00 PM |
| Chrysene | ND | 36.6 | Q | µg/Kg-dry | 5 | 9/17/2011 6:12:00 PM |
| Dibenz(a,h)anthracene | ND | 36.6 | Q | µg/Kg-dry | 5 | 9/17/2011 6:12:00 PM |
| Fluoranthene | 27.0 | 7.31 | | µg/Kg-dry | 1 | 9/15/2011 6:56:00 PM |
| Fluorene | ND | 7.31 | | µg/Kg-dry | 1 | 9/15/2011 6:56:00 PM |
| Indeno(1,2,3-cd)pyrene | ND | 36.6 | Q | µg/Kg-dry | 5 | 9/17/2011 6:12:00 PM |
| Naphthalene | 18.3 | 7.31 | | µg/Kg-dry | 1 | 9/15/2011 6:56:00 PM |
| Phenanthrene | 26.3 | 7.31 | | µg/Kg-dry | 1 | 9/15/2011 6:56:00 PM |
| Pyrene | ND | 36.6 | Q | µg/Kg-dry | 5 | 9/17/2011 6:12:00 PM |
| Surr: 2-Fluorobiphenyl | 57.2 | 42.6-128 | | %REC | 1 | 9/15/2011 6:56:00 PM |
| Surr: Nitrobenzene-d5 | 50.1 | 21.7-155 | | %REC | 1 | 9/15/2011 6:56:00 PM |
| Surr: p-Terphenyl-d14 | 82.8 | 44.9-155 | | %REC | 5 | 9/17/2011 6:12:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-24-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 12:30:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-19 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,1,1-Trichloroethane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,1,2-Trichloroethane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,1-Dichloroethane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,1-Dichloroethene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,1-Dichloropropene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,2,3-Trichlorobenzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,2,3-Trichloropropane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,2,4-Trichlorobenzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,2,4-Trimethylbenzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,2-Dibromoethane | ND | 5.48 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,2-Dichlorobenzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,2-Dichloroethane | ND | 5.48 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,2-Dichloropropane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,3,5-Trimethylbenzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,3-Dichlorobenzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,3-Dichloropropane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 1,4-Dichlorobenzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 2,2-Dichloropropane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 2-Butanone | ND | 21.9 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 2-Chlorotoluene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 2-Hexanone | ND | 21.9 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 4-Chlorotoluene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 4-Isopropyltoluene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| 4-Methyl-2-pentanone | ND | 21.9 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Acetone | ND | 54.8 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Benzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Bromobenzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Bromochloromethane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Bromodichloromethane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Bromoform | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Bromomethane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Carbon disulfide | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Carbon tetrachloride | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Chlorobenzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Chloroethane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Chloroform | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Chloromethane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| cis-1,2-Dichloroethene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-24-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/8/2011 12:30:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-19 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| cis-1,3-Dichloropropene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Dibromochloromethane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Dibromomethane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Dichlorodifluoromethane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Ethylbenzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Hexachlorobutadiene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Isopropylbenzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| m,p-Xylene | ND | 21.9 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Methyl tert-butyl ether | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Methylene chloride | ND | 54.8 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| n-Butylbenzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| n-Propylbenzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Naphthalene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| o-Xylene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| sec-Butylbenzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Styrene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| tert-Butylbenzene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Tetrachloroethene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Toluene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| trans-1,2-Dichloroethene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| trans-1,3-Dichloropropene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Trichloroethene | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Trichlorofluoromethane | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Vinyl chloride | ND | 11.0 | | µg/Kg-dry | 1 | 9/9/2011 6:29:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 94.3 | 71.5-112 | | %REC | 1 | 9/9/2011 6:29:00 PM |
| Surr: 4-Bromofluorobenzene | 92.6 | 75.7-122 | | %REC | 1 | 9/9/2011 6:29:00 PM |
| Surr: Dibromofluoromethane | 106 | 64.3-124 | | %REC | 1 | 9/9/2011 6:29:00 PM |
| Surr: Toluene-d8 | 112 | 74.9-120 | | %REC | 1 | 9/9/2011 6:29:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.365 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1221 | ND | 0.365 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1232 | ND | 0.365 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1242 | ND | 0.365 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1248 | ND | 0.365 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1254 | ND | 0.365 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1260 | 143 | 0.365 | CN | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1262 | ND | 0.365 | | µg/Kg-dry | 1 | 9/12/2011 |
| Aroclor 1268 | ND | 0.365 | | µg/Kg-dry | 1 | 9/12/2011 |
| Surr: Decachlorobiphenyl | 67.2 | 56.5-130 | | %REC | 1 | 9/12/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-10-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 9:20:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-20 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 16.1 | | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | ND | 53.8 | | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 87.5 | 50-150 | | %REC | 1 | 9/15/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 3.37 | 1.41 | | mg/Kg-dry | 1 | 9/9/2011 9:51:23 PM |
| Barium | 104 | 0.707 | B | mg/Kg-dry | 1 | 9/9/2011 9:51:23 PM |
| Cadmium | ND | 0.0707 | | mg/Kg-dry | 1 | 9/9/2011 9:51:23 PM |
| Chromium | 5.94 | 0.354 | | mg/Kg-dry | 1 | 9/9/2011 9:51:23 PM |
| Lead | 3.80 | 1.41 | | mg/Kg-dry | 1 | 9/9/2011 9:51:23 PM |
| Selenium | ND | 1.41 | | mg/Kg-dry | 1 | 9/9/2011 9:51:23 PM |
| Silver | 5.02 | 1.41 | | mg/Kg-dry | 1 | 9/9/2011 9:51:23 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0200 | 0.0112 | | mg/Kg-dry | 1 | 9/12/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-11-2 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 9:30:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-21 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 70.9 | 21.2 | A1,K | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | 545 | 70.7 | A2 | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 58.5 | 50-150 | | %REC | 1 | 9/15/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 5.37 | 2.14 | | mg/Kg-dry | 1 | 9/9/2011 9:56:35 PM |
| Barium | 76.3 | 1.07 | B | mg/Kg-dry | 1 | 9/9/2011 9:56:35 PM |
| Cadmium | ND | 0.107 | | mg/Kg-dry | 1 | 9/9/2011 9:56:35 PM |
| Chromium | 8.28 | 0.536 | | mg/Kg-dry | 1 | 9/9/2011 9:56:35 PM |
| Lead | 7.11 | 2.14 | | mg/Kg-dry | 1 | 9/9/2011 9:56:35 PM |
| Selenium | ND | 2.14 | | mg/Kg-dry | 1 | 9/9/2011 9:56:35 PM |
| Silver | ND | 2.14 | | mg/Kg-dry | 1 | 9/9/2011 9:56:35 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0165 | 0.0131 | | mg/Kg-dry | 1 | 9/12/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-12-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 9:45:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-22 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 53.2 | 19.6 | A1 | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | 203 | 65.2 | A2 | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 74.8 | 50-150 | | %REC | 1 | 9/15/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 6.61 | 2.17 | | mg/Kg-dry | 1 | 9/9/2011 10:01:34 PM |
| Barium | 133 | 1.09 | B | mg/Kg-dry | 1 | 9/9/2011 10:01:34 PM |
| Cadmium | 0.272 | 0.109 | | mg/Kg-dry | 1 | 9/9/2011 10:01:34 PM |
| Chromium | 13.7 | 0.543 | | mg/Kg-dry | 1 | 9/9/2011 10:01:34 PM |
| Lead | 42.4 | 2.17 | | mg/Kg-dry | 1 | 9/9/2011 10:01:34 PM |
| Selenium | ND | 2.17 | | mg/Kg-dry | 1 | 9/9/2011 10:01:34 PM |
| Silver | ND | 2.17 | | mg/Kg-dry | 1 | 9/9/2011 10:01:34 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.0566 | 0.0198 | | mg/Kg-dry | 1 | 9/14/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-13-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 9:55:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-23 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 17.1 | | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | ND | 56.9 | | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 91.9 | 50-150 | | %REC | 1 | 9/15/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 7.30 | 1.42 | | mg/Kg-dry | 1 | 9/9/2011 10:26:52 PM |
| Barium | 78.6 | 0.711 | B | mg/Kg-dry | 1 | 9/9/2011 10:26:52 PM |
| Cadmium | ND | 0.0711 | | mg/Kg-dry | 1 | 9/9/2011 10:26:52 PM |
| Chromium | 10.7 | 0.356 | | mg/Kg-dry | 1 | 9/9/2011 10:26:52 PM |
| Lead | 5.75 | 1.42 | | mg/Kg-dry | 1 | 9/9/2011 10:26:52 PM |
| Selenium | ND | 1.42 | | mg/Kg-dry | 1 | 9/9/2011 10:26:52 PM |
| Silver | 1.43 | 1.42 | | mg/Kg-dry | 1 | 9/9/2011 10:26:52 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.0222 | 0.0190 | | mg/Kg-dry | 1 | 9/14/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-14-2 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 1:05:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-24 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **mjf** |
| Hold | Hold | | | | 1 | 9/20/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-14-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 1:00:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-25 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 25.8 | 19.3 | | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | 148 | 64.4 | | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 69.8 | 50-150 | | %REC | 1 | 9/15/2011 |
| **5035A/NWTPH-GX** | | **NWTPH-GX** | | | | Analyst: **jrp** |
| Gasoline | 30.2 | 5.90 | | mg/Kg-dry | 1 | 9/12/2011 |
| Surr: 4-Bromofluorobenzene | 115 | 50-150 | | %REC | 1 | 9/12/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 7.15 | 1.65 | | mg/Kg-dry | 1 | 9/9/2011 10:31:50 PM |
| Barium | 208 | 0.826 | B | mg/Kg-dry | 1 | 9/9/2011 10:31:50 PM |
| Cadmium | ND | 0.0826 | | mg/Kg-dry | 1 | 9/9/2011 10:31:50 PM |
| Chromium | 15.6 | 0.413 | | mg/Kg-dry | 1 | 9/9/2011 10:31:50 PM |
| Lead | 7.96 | 1.65 | | mg/Kg-dry | 1 | 9/9/2011 10:31:50 PM |
| Selenium | ND | 1.65 | | mg/Kg-dry | 1 | 9/9/2011 10:31:50 PM |
| Silver | 1.76 | 1.65 | | mg/Kg-dry | 1 | 9/9/2011 10:31:50 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.0487 | 0.0215 | | mg/Kg-dry | 1 | 9/14/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-15-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 10:15:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-26 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 18.0 | | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | ND | 60.0 | | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 77.3 | 50-150 | | %REC | 1 | 9/15/2011 |

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-16-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 10:40:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-27 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 17.8 | | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | ND | 59.2 | | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 89.5 | 50-150 | | %REC | 1 | 9/15/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 6.07 | 1.65 | | mg/Kg-dry | 1 | 9/9/2011 10:36:49 PM |
| Barium | 234 | 0.823 | B | mg/Kg-dry | 1 | 9/9/2011 10:36:49 PM |
| Cadmium | ND | 0.0823 | | mg/Kg-dry | 1 | 9/9/2011 10:36:49 PM |
| Chromium | 16.2 | 0.411 | | mg/Kg-dry | 1 | 9/9/2011 10:36:49 PM |
| Lead | 20.5 | 1.65 | | mg/Kg-dry | 1 | 9/9/2011 10:36:49 PM |
| Selenium | ND | 1.65 | | mg/Kg-dry | 1 | 9/9/2011 10:36:49 PM |
| Silver | 2.02 | 1.65 | | mg/Kg-dry | 1 | 9/9/2011 10:36:49 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.0625 | 0.0186 | | mg/Kg-dry | 1 | 9/14/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **das** |
| 1-Methylnaphthalene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| 2-Methylnaphthalene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Acenaphthene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Acenaphthylene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Anthracene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Benz(a)anthracene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Benzo(a)pyrene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Benzo(b)fluoranthene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Benzo(g,h,i)perylene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Benzo(k)fluoranthene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Chrysene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Dibenz(a,h)anthracene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Fluoranthene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Fluorene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Indeno(1,2,3-cd)pyrene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Naphthalene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Phenanthrene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Pyrene | ND | 39.5 | Q | µg/Kg-dry | 5 | 9/17/2011 5:46:00 PM |
| Surr: 2-Fluorobiphenyl | 48.4 | 42.6-128 | | %REC | 5 | 9/17/2011 5:46:00 PM |
| Surr: Nitrobenzene-d5 | 39.3 | 21.7-155 | | %REC | 5 | 9/17/2011 5:46:00 PM |
| Surr: p-Terphenyl-d14 | 95.6 | 44.9-155 | | %REC | 5 | 9/17/2011 5:46:00 PM |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-17-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 10:45:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-28 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 17.1 | | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | ND | 57.1 | | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 86.1 | 50-150 | | %REC | 1 | 9/15/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-17-2 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 10:55:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-29 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **mjf** |
| Hold | Hold | | | | 1 | 9/20/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-18-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 11:05:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-30 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 146 | 20.2 | A1 | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | 382 | 67.3 | A2 | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 86.7 | 50-150 | | %REC | 1 | 9/15/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-18-2 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 11:10:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-31 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **mjf** |
| Hold | Hold | | | | 1 | 9/20/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-19-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 11:25:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-32 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 886 | 21.7 | A1 | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | 1630 | 72.3 | A2 | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 61.6 | 50-150 | | %REC | 1 | 9/15/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-19-2 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 11:20:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-33 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **mjf** |
| Hold | Hold | | | | 1 | 9/20/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-20-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 12:40:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-34 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 19.9 | | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | 76.7 | 66.2 | A2 | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 78.3 | 50-150 | | %REC | 1 | 9/15/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 10.7 | 2.45 | | mg/Kg-dry | 1 | 9/9/2011 10:41:48 PM |
| Barium | 132 | 1.23 | B | mg/Kg-dry | 1 | 9/9/2011 10:41:48 PM |
| Cadmium | ND | 0.123 | | mg/Kg-dry | 1 | 9/9/2011 10:41:48 PM |
| Chromium | 18.3 | 0.613 | | mg/Kg-dry | 1 | 9/9/2011 10:41:48 PM |
| Lead | 6.36 | 2.45 | | mg/Kg-dry | 1 | 9/9/2011 10:41:48 PM |
| Selenium | ND | 2.45 | | mg/Kg-dry | 1 | 9/9/2011 10:41:48 PM |
| Silver | ND | 2.45 | | mg/Kg-dry | 1 | 9/9/2011 10:41:48 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.0226 | 0.0166 | | mg/Kg-dry | 1 | 9/14/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-20-2 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 12:45:00 PM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-35 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **mjf** |
| Hold | Hold | | | | 1 | 9/20/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-9-1 |
| **Lab Order:** | 1109062 | **Collection Date:** | 9/7/2011 9:05:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1109062-36 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 18.1 | | mg/Kg-dry | 1 | 9/15/2011 |
| Lube Oil | 82.6 | 60.2 | A2 | mg/Kg-dry | 1 | 9/15/2011 |
| Surr: o-Terphenyl | 85.3 | 50-150 | | %REC | 1 | 9/15/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 7.36 | 1.94 | | mg/Kg-dry | 1 | 9/9/2011 8:26:19 PM |
| Barium | 242 | 0.972 | B | mg/Kg-dry | 1 | 9/9/2011 8:26:19 PM |
| Cadmium | ND | 0.0972 | | mg/Kg-dry | 1 | 9/9/2011 8:26:19 PM |
| Chromium | 19.9 | 0.486 | | mg/Kg-dry | 1 | 9/9/2011 8:26:19 PM |
| Lead | 6.23 | 1.94 | | mg/Kg-dry | 1 | 9/9/2011 8:26:19 PM |
| Selenium | ND | 1.94 | | mg/Kg-dry | 1 | 9/9/2011 8:26:19 PM |
| Silver | 2.07 | 1.94 | | mg/Kg-dry | 1 | 9/9/2011 8:26:19 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.0574 | 0.0201 | | mg/Kg-dry | 1 | 9/14/2011 |

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **MBLK-29376** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775708** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ND | 2.00 | | | | | | | | | |

| Sample ID: **MBLK-29376** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/9/2011** | Run ID: **TJA IRIS_110909D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775821** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 2.00 | | | | | | | | | |
| Barium | ND | 1.00 | | | | | | | | | |
| Cadmium | ND | 0.100 | | | | | | | | | |
| Chromium | ND | 0.500 | | | | | | | | | |
| Lead | ND | 2.00 | | | | | | | | | |
| Selenium | ND | 2.00 | | | | | | | | | |
| Silver | 0.66 | 2.00 | | | | | | | | | J |

| Sample ID: **MBLK-29380** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/9/2011** | Run ID: **TJA IRIS_110909E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29380** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775850** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Barium | 2.21 | 1.00 | | | | | | | | | |
| Cadmium | ND | 0.100 | | | | | | | | | |
| Lead | 1.03 | 2.00 | | | | | | | | | J |
| Selenium | ND | 2.00 | | | | | | | | | |
| Silver | 0.66 | 2.00 | | | | | | | | | J |

| Sample ID: **MBLK-29380** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/9/2011** | Run ID: **TJA IRIS_110909E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29380** | TestNo: **E6010** | | Analysis Date: **9/13/2011** | SeqNo: **776365** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 2.00 | | | | | | | | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **MBLK-29380** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/9/2011** | Run ID: **TJA IRIS_110909E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29380** | TestNo: **E6010** | | Analysis Date: **9/13/2011** | SeqNo: **776365** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chromium | ND | 0.500 | | | | | | | | | |

| Sample ID: **LCS-29376** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775709** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 87.87 | 2.00 | 100 | 0 | 87.9 | 84.9 | 109 | 0 | 0 | | |

| Sample ID: **LCS-29376** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775822** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 95.48 | 2.00 | 100 | 0 | 95.5 | 85.1 | 107 | 0 | 0 | | |
| Barium | 48.88 | 1.00 | 50 | 0 | 97.8 | 85.7 | 110 | 0 | 0 | | |
| Cadmium | 4.77 | 0.100 | 5 | 0 | 95.4 | 87.2 | 109 | 0 | 0 | | |
| Chromium | 24.88 | 0.500 | 25 | 0 | 99.5 | 84 | 113 | 0 | 0 | | |
| Lead | 95.32 | 2.00 | 100 | 0 | 95.3 | 84.9 | 109 | 0 | 0 | | |
| Selenium | 92.94 | 2.00 | 100 | 0 | 92.9 | 88.7 | 111 | 0 | 0 | | |
| Silver | 45.3 | 2.00 | 50 | 0 | 90.6 | 79.3 | 109 | 0 | 0 | | |

| Sample ID: **LCS-29380** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/9/2011** | Run ID: **TJA IRIS_110909E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29380** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775851** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 95.14 | 2.00 | 100 | 0 | 95.1 | 85.1 | 107 | 0 | 0 | | |
| Barium | 48.48 | 1.00 | 50 | 0 | 97 | 85.7 | 110 | 0 | 0 | | B |
| Cadmium | 4.56 | 0.100 | 5 | 0 | 91.2 | 87.2 | 109 | 0 | 0 | | |
| Chromium | 24.53 | 0.500 | 25 | 0 | 98.1 | 84 | 113 | 0 | 0 | | |
| Lead | 94.55 | 2.00 | 100 | 0 | 94.6 | 84.9 | 109 | 0 | 0 | | |
| Selenium | 91.58 | 2.00 | 100 | 0 | 91.6 | 88.7 | 111 | 0 | 0 | | |
| Silver | 44.16 | 2.00 | 50 | 0 | 88.3 | 79.3 | 109 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **1109055-03AMS** | SampType: **MS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775712** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 365.8 | 1.85 | 92.59 | 292.2 | 79.5 | 84.9 | 109 | 0 | 0 | | S |

| Sample ID: **A1109055-03AMS** | SampType: **MS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775825** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 91.24 | 1.85 | 92.59 | 4.426 | 93.8 | 86.1 | 109 | 0 | 0 | | |
| Barium | 623.8 | 0.926 | 46.3 | 462 | 349 | 75 | 125 | 0 | 0 | | S,MC |
| Cadmium | 4.454 | 0.0926 | 4.63 | 0.08333 | 94.4 | 86.4 | 113 | 0 | 0 | | |
| Chromium | 45.54 | 0.463 | 23.15 | 22.92 | 97.7 | 75 | 121 | 0 | 0 | | |
| Lead | 395.2 | 1.85 | 92.59 | 306.3 | 96 | 84.9 | 109 | 0 | 0 | | |
| Selenium | 80.53 | 1.85 | 92.59 | 0 | 87 | 77.7 | 116 | 0 | 0 | | |
| Silver | 46.83 | 1.85 | 46.3 | 3.491 | 93.6 | 75 | 123 | 0 | 0 | | |

| Sample ID: **1109062-36AMS** | SampType: **MS** | TestCode: **6010_S** | Units: **mg/Kg-dry** | Prep Date: **9/9/2011** | Run ID: **TJA IRIS_110909E** |
|---|---|---|---|---|---|
| Client ID: **SS-9-1** | Batch ID: **29380** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775854** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 98.68 | 2.08 | 103.9 | 7.365 | 87.9 | 86.1 | 109 | 0 | 0 | | |
| Barium | 229.2 | 1.04 | 51.93 | 241.6 | -23.9 | 75 | 125 | 0 | 0 | | BS,MC |
| Cadmium | 4.456 | 0.104 | 5.193 | 0 | 85.8 | 86.4 | 113 | 0 | 0 | | S,RP |
| Chromium | 42.8 | 0.519 | 25.97 | 19.87 | 88.3 | 75 | 121 | 0 | 0 | | |
| Lead | 97.39 | 2.08 | 103.9 | 6.228 | 87.8 | 84.9 | 109 | 0 | 0 | | |
| Selenium | 86.59 | 2.08 | 103.9 | 0 | 83.4 | 77.7 | 116 | 0 | 0 | | |
| Silver | 48.05 | 2.08 | 51.93 | 2.07 | 88.5 | 75 | 123 | 0 | 0 | | |

| Sample ID: **1109055-03AMSD** | SampType: **MSD** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775713** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 335.3 | 1.92 | 96.15 | 292.2 | 44.8 | 84.9 | 109 | 365.8 | 8.71 | 20 | S |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **A1109055-03AMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **9/8/2011** Run ID: **TJA IRIS_110909D**
Client ID: **ZZZZZ** Batch ID: **29376** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775826**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 90.94 | 1.92 | 96.15 | 4.426 | 90 | 86.1 | 109 | 91.24 | 0.328 | 20 | |
| Barium | 595.4 | 0.962 | 48.08 | 462 | 277 | 75 | 125 | 623.8 | 4.66 | 20 | S,MC |
| Cadmium | 4.404 | 0.0962 | 4.808 | 0.08333 | 89.9 | 86.4 | 113 | 4.454 | 1.13 | 20 | |
| Chromium | 42.85 | 0.481 | 24.04 | 22.92 | 82.9 | 75 | 121 | 45.54 | 6.09 | 20 | |
| Lead | 372.8 | 1.92 | 96.15 | 306.3 | 69.2 | 84.9 | 109 | 395.2 | 5.83 | 20 | S |
| Selenium | 81.91 | 1.92 | 96.15 | 0 | 85.2 | 77.7 | 116 | 80.53 | 1.71 | 20 | |
| Silver | 46.31 | 1.92 | 48.08 | 3.491 | 89.1 | 75 | 123 | 46.83 | 1.13 | 20 | |

Sample ID: **1109062-36AMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **9/9/2011** Run ID: **TJA IRIS_110909E**
Client ID: **SS-9-1** Batch ID: **29380** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775855**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 91.9 | 2.01 | 100.4 | 7.365 | 84.2 | 86.1 | 109 | 98.68 | 7.12 | 20 | S,RP |
| Barium | 225.6 | 1.00 | 50.2 | 241.6 | -32 | 75 | 125 | 229.2 | 1.59 | 20 | BS,MC |
| Cadmium | 4.197 | 0.100 | 5.02 | 0 | 83.6 | 86.4 | 113 | 4.456 | 5.99 | 20 | S,RP |
| Chromium | 41.06 | 0.502 | 25.1 | 19.87 | 84.4 | 75 | 121 | 42.8 | 4.14 | 20 | |
| Lead | 90.66 | 2.01 | 100.4 | 6.228 | 84.1 | 84.9 | 109 | 97.39 | 7.16 | 20 | S,RP |
| Selenium | 80.39 | 2.01 | 100.4 | 0 | 80.1 | 77.7 | 116 | 86.59 | 7.43 | 20 | |
| Silver | 45.42 | 2.01 | 50.2 | 2.07 | 86.4 | 75 | 123 | 48.05 | 5.62 | 20 | |

Sample ID: **1109055-03ADUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **9/8/2011** Run ID: **TJA IRIS_110909C**
Client ID: **ZZZZZ** Batch ID: **29376** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775711**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 357.9 | 1.85 | 0 | 0 | 0 | 0 | 0 | 292.2 | 20.2 | 20 | R |

Sample ID: **A1109055-03ADUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **9/8/2011** Run ID: **TJA IRIS_110909D**
Client ID: **ZZZZZ** Batch ID: **29376** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775824**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3.435 | 1.85 | 0 | 0 | 0 | 0 | 0 | 4.426 | 25.2 | 20 | RF |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **A1109055-03ADUP** | SampType: **DUP** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **9/8/2011** | Run ID: **TJA IRIS_110909D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775824** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Barium | 592.5 | 0.926 | 0 | 0 | 0 | 0 | 0 | 462 | 24.7 | 20 | R |
| Cadmium | ND | 0.0926 | 0 | 0 | 0 | 0 | 0 | 0.08333 | 0 | 20 | |
| Chromium | 20.94 | 0.463 | 0 | 0 | 0 | 0 | 0 | 22.92 | 8.99 | 20 | |
| Lead | 380.6 | 1.85 | 0 | 0 | 0 | 0 | 0 | 306.3 | 21.6 | 20 | R |
| Selenium | ND | 1.85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Silver | 3.306 | 1.85 | 0 | 0 | 0 | 0 | 0 | 3.491 | 5.45 | 20 | |

| Sample ID: **1109062-36ADUP** | SampType: **DUP** | TestCode: **6010_S** | Units: **mg/Kg-dry** | Prep Date: **9/9/2011** | Run ID: **TJA IRIS_110909E** |
|---|---|---|---|---|---|
| Client ID: **SS-9-1** | Batch ID: **29380** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775853** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 6.18 | 2.08 | 0 | 0 | 0 | 0 | 0 | 7.365 | 17.5 | 20 | |
| Barium | 186 | 1.04 | 0 | 0 | 0 | 0 | 0 | 241.6 | 26.0 | 20 | BR |
| Cadmium | ND | 0.104 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Chromium | 19.16 | 0.519 | 0 | 0 | 0 | 0 | 0 | 19.87 | 3.62 | 20 | |
| Lead | 6.242 | 2.08 | 0 | 0 | 0 | 0 | 0 | 6.228 | 0.226 | 20 | |
| Selenium | ND | 2.08 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Silver | 2.254 | 2.08 | 0 | 0 | 0 | 0 | 0 | 2.07 | 8.52 | 20 | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_110909C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775707** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 95.51 | 2.00 | 100 | 0 | 95.5 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_110909C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775718** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 94.42 | 2.00 | 100 | 0 | 94.4 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110909D**
Client ID: **ZZZZZ** Batch ID: **29376** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775830**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 100.8 | 2.00 | 100 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Barium | 50.33 | 1.00 | 50 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.99 | 0.100 | 5 | 0 | 99.8 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.11 | 0.500 | 25 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Lead | 100.5 | 2.00 | 100 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Selenium | 98.29 | 2.00 | 100 | 0 | 98.3 | 90 | 110 | 0 | 0 | | |
| Silver | 47.52 | 2.00 | 50 | 0 | 95 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110909D**
Client ID: **ZZZZZ** Batch ID: **29376** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775840**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 99.48 | 2.00 | 100 | 0 | 99.5 | 90 | 110 | 0 | 0 | | |
| Barium | 49.48 | 1.00 | 50 | 0 | 99 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.86 | 0.100 | 5 | 0 | 97.2 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.3 | 0.500 | 25 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Lead | 97.98 | 2.00 | 100 | 0 | 98 | 90 | 110 | 0 | 0 | | |
| Selenium | 95.19 | 2.00 | 100 | 0 | 95.2 | 90 | 110 | 0 | 0 | | |
| Silver | 46.5 | 2.00 | 50 | 0 | 93 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110909D**
Client ID: **ZZZZZ** Batch ID: **29376** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775845**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 103.1 | 2.00 | 100 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.95 | 0.100 | 5 | 0 | 99 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.95 | 0.500 | 25 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Lead | 101.5 | 2.00 | 100 | 0 | 102 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110909E**
Client ID: **ZZZZZ** Batch ID: **29380** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775849**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 103.1 | 2.00 | 100 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Barium | 50.17 | 1.00 | 50 | 0 | 100 | 90 | 110 | 0 | 0 | | B |
| Cadmium | 4.95 | 0.100 | 5 | 0 | 99 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.95 | 0.500 | 25 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Lead | 101.5 | 2.00 | 100 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Selenium | 97.52 | 2.00 | 100 | 0 | 97.5 | 90 | 110 | 0 | 0 | | |
| Silver | 47.98 | 2.00 | 50 | 0 | 96 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110909E**
Client ID: **ZZZZZ** Batch ID: **29380** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775859**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 103.8 | 2.00 | 100 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Barium | 49.95 | 1.00 | 50 | 0 | 99.9 | 90 | 110 | 0 | 0 | | B |
| Cadmium | 4.88 | 0.100 | 5 | 0 | 97.6 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.32 | 0.500 | 25 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Lead | 102.8 | 2.00 | 100 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Selenium | 97.33 | 2.00 | 100 | 0 | 97.3 | 90 | 110 | 0 | 0 | | |
| Silver | 47.93 | 2.00 | 50 | 0 | 95.9 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110909E**
Client ID: **ZZZZZ** Batch ID: **29380** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775869**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 102.7 | 2.00 | 100 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Barium | 50.38 | 1.00 | 50 | 0 | 101 | 90 | 110 | 0 | 0 | | B |
| Cadmium | 4.89 | 0.100 | 5 | 0 | 97.8 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.24 | 0.500 | 25 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Lead | 101.6 | 2.00 | 100 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Selenium | 96.08 | 2.00 | 100 | 0 | 96.1 | 90 | 110 | 0 | 0 | | |
| Silver | 47.54 | 2.00 | 50 | 0 | 95.1 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_110909E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29380** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775874** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 103.6 | 2.00 | 100 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Barium | 49.98 | 1.00 | 50 | 0 | 100 | 90 | 110 | 0 | 0 | | B |
| Cadmium | 4.86 | 0.100 | 5 | 0 | 97.2 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.81 | 0.500 | 25 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Lead | 101.7 | 2.00 | 100 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Selenium | 96.76 | 2.00 | 100 | 0 | 96.8 | 90 | 110 | 0 | 0 | | |
| Silver | 47.8 | 2.00 | 50 | 0 | 95.6 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_110909E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29380** | TestNo: **E6010** | | Analysis Date: **9/13/2011** | SeqNo: **776364** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 99.9 | 2.00 | 100 | 0 | 99.9 | 90 | 110 | 0 | 0 | | |
| Chromium | 23.96 | 0.500 | 25 | 0 | 95.8 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_110909E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29380** | TestNo: **E6010** | | Analysis Date: **9/13/2011** | SeqNo: **776366** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 99.01 | 2.00 | 100 | 0 | 99 | 90 | 110 | 0 | 0 | | |
| Barium | 51.18 | 1.00 | 50 | 0 | 102 | 90 | 110 | 0 | 0 | | B |
| Chromium | 24.78 | 0.500 | 25 | 0 | 99.1 | 90 | 110 | 0 | 0 | | |

| Sample ID: **ICV** | SampType: **ICV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_110909C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29376** | TestNo: **E6010** | | Analysis Date: **9/9/2011** | SeqNo: **775706** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 98.21 | 2.00 | 100 | 0 | 98.2 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110909D**
Client ID: **ZZZZZ** Batch ID: **29376** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775820**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 100.3 | 2.00 | 100 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Barium | 50.39 | 1.00 | 50 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.98 | 0.100 | 5 | 0 | 99.6 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.1 | 0.500 | 25 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Lead | 100.9 | 2.00 | 100 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Selenium | 98.49 | 2.00 | 100 | 0 | 98.5 | 90 | 110 | 0 | 0 | | |
| Silver | 48.01 | 2.00 | 50 | 0 | 96 | 90 | 110 | 0 | 0 | | |

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110909E**
Client ID: **ZZZZZ** Batch ID: **29380** TestNo: **E6010** Analysis Date: **9/9/2011** SeqNo: **775848**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 100.3 | 2.00 | 100 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Barium | 50.39 | 1.00 | 50 | 0 | 101 | 90 | 110 | 0 | 0 | | B |
| Cadmium | 4.98 | 0.100 | 5 | 0 | 99.6 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.1 | 0.500 | 25 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Lead | 100.9 | 2.00 | 100 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Selenium | 98.49 | 2.00 | 100 | 0 | 98.5 | 90 | 110 | 0 | 0 | | |
| Silver | 48.01 | 2.00 | 50 | 0 | 96 | 90 | 110 | 0 | 0 | | |

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110909E**
Client ID: **ZZZZZ** Batch ID: **29380** TestNo: **E6010** Analysis Date: **9/13/2011** SeqNo: **776363**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 97.48 | 2.00 | 100 | 0 | 97.5 | 90 | 110 | 0 | 0 | | |
| Chromium | 24.78 | 0.500 | 25 | 0 | 99.1 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **MB-29381** | SampType: **MBLK** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **9/8/2011** | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776338** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016 | ND | 0.333 | | | | | | | | | |
| Aroclor 1221 | ND | 0.333 | | | | | | | | | |
| Aroclor 1232 | ND | 0.333 | | | | | | | | | |
| Aroclor 1242 | ND | 0.333 | | | | | | | | | |
| Aroclor 1248 | ND | 0.333 | | | | | | | | | |
| Aroclor 1254 | ND | 0.333 | | | | | | | | | |
| Aroclor 1260 | ND | 0.333 | | | | | | | | | |
| Aroclor 1262 | ND | 0.333 | | | | | | | | | |
| Aroclor 1268 | ND | 0.333 | | | | | | | | | |
| Surr: Decachlorobiphenyl | 8437 | 0 | 6667 | 0 | 127 | 56.5 | 130 | 0 | 0 | | |

| Sample ID: **LCS-29381** | SampType: **LCS** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **9/8/2011** | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776339** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 60.67 | 0.333 | 66.67 | 0 | 91 | 44.3 | 137 | 0 | 0 | | |

| Sample ID: **1109045-04AMS** | SampType: **MS** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **9/8/2011** | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776340** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 48.37 | 0.403 | 80.61 | 0 | 60 | 56.6 | 123 | 0 | 0 | | |

| Sample ID: **1109045-04AMSD** | SampType: **MSD** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **9/8/2011** | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776341** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 50.79 | 0.403 | 80.61 | 0 | 63 | 56.6 | 123 | 48.37 | 4.88 | 20 | |

**Qualifiers:**
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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776337** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 67.33 | 0.333 | 66.67 | 0 | 101 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776348** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 72 | 0.333 | 66.67 | 0 | 108 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29381** | TestNo: **SW8082** | | Analysis Date: **9/12/2011** | SeqNo: **776528** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 64 | 0.333 | 66.67 | 0 | 96 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 58 | 0.333 | 66.67 | 0 | 87 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_S**

Sample ID: **MBLK-29393** SampType: **MBLK** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5973J_110909A**
Client ID: **ZZZZZ** Batch ID: **29393** TestNo: **SW8260B** Analysis Date: **9/9/2011** SeqNo: **775810**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | | | | | | | | | |
| 1,1,1-Trichloroethane | ND | 10.0 | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | | | | | | | | | |
| 1,1,2-Trichloroethane | ND | 10.0 | | | | | | | | | |
| 1,1-Dichloroethane | ND | 10.0 | | | | | | | | | |
| 1,1-Dichloroethene | ND | 10.0 | | | | | | | | | |
| 1,1-Dichloropropene | ND | 10.0 | | | | | | | | | |
| 1,2,3-Trichlorobenzene | 1.82 | 10.0 | | | | | | | | | J |
| 1,2,3-Trichloropropane | ND | 10.0 | | | | | | | | | |
| 1,2,4-Trichlorobenzene | 1.21 | 10.0 | | | | | | | | | J |
| 1,2,4-Trimethylbenzene | ND | 10.0 | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | | | | | | | | | |
| 1,2-Dibromoethane | ND | 5.00 | | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,2-Dichloroethane | ND | 5.00 | | | | | | | | | |
| 1,2-Dichloropropane | ND | 10.0 | | | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,3-Dichloropropane | ND | 10.0 | | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 10.0 | | | | | | | | | |
| 2,2-Dichloropropane | ND | 10.0 | | | | | | | | | |
| 2-Butanone | ND | 20.0 | | | | | | | | | |
| 2-Chlorotoluene | ND | 10.0 | | | | | | | | | |
| 2-Hexanone | ND | 20.0 | | | | | | | | | |
| 4-Chlorotoluene | ND | 10.0 | | | | | | | | | |
| 4-Isopropyltoluene | ND | 10.0 | | | | | | | | | |
| 4-Methyl-2-pentanone | ND | 20.0 | | | | | | | | | |
| Acetone | 27.31 | 50.0 | | | | | | | | | J |
| Benzene | ND | 10.0 | | | | | | | | | |
| Bromobenzene | ND | 10.0 | | | | | | | | | |
| Bromochloromethane | ND | 10.0 | | | | | | | | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_S**

Sample ID: **MBLK-29393** SampType: **MBLK** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5973J_110909A**
Client ID: **ZZZZZ** Batch ID: **29393** TestNo: **SW8260B** Analysis Date: **9/9/2011** SeqNo: **775810**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | ND | 10.0 | | | | | | | | | |
| Bromoform | ND | 10.0 | | | | | | | | | |
| Bromomethane | ND | 10.0 | | | | | | | | | |
| Carbon disulfide | ND | 10.0 | | | | | | | | | |
| Carbon tetrachloride | ND | 10.0 | | | | | | | | | |
| Chlorobenzene | ND | 10.0 | | | | | | | | | |
| Chloroethane | ND | 10.0 | | | | | | | | | |
| Chloroform | ND | 10.0 | | | | | | | | | |
| Chloromethane | ND | 10.0 | | | | | | | | | |
| cis-1,2-Dichloroethene | ND | 10.0 | | | | | | | | | |
| cis-1,3-Dichloropropene | ND | 10.0 | | | | | | | | | |
| Dibromochloromethane | ND | 10.0 | | | | | | | | | |
| Dibromomethane | ND | 10.0 | | | | | | | | | |
| Dichlorodifluoromethane | ND | 10.0 | | | | | | | | | |
| Ethylbenzene | ND | 10.0 | | | | | | | | | |
| Hexachlorobutadiene | ND | 10.0 | | | | | | | | | |
| Isopropylbenzene | ND | 10.0 | | | | | | | | | |
| m,p-Xylene | ND | 20.0 | | | | | | | | | |
| Methyl tert-butyl ether | ND | 10.0 | | | | | | | | | |
| Methylene chloride | 56.35 | 50.0 | | | | | | | | | B |
| n-Butylbenzene | ND | 10.0 | | | | | | | | | |
| n-Propylbenzene | ND | 10.0 | | | | | | | | | |
| Naphthalene | 2.85 | 10.0 | | | | | | | | | J |
| o-Xylene | ND | 10.0 | | | | | | | | | |
| sec-Butylbenzene | ND | 10.0 | | | | | | | | | |
| Styrene | ND | 10.0 | | | | | | | | | |
| tert-Butylbenzene | ND | 10.0 | | | | | | | | | |
| Tetrachloroethene | ND | 10.0 | | | | | | | | | |
| Toluene | ND | 10.0 | | | | | | | | | |
| trans-1,2-Dichloroethene | ND | 10.0 | | | | | | | | | |
| trans-1,3-Dichloropropene | ND | 10.0 | | | | | | | | | |

**Qualifiers:**
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_S**

| Sample ID: **MBLK-29393** | SampType: **MBLK** | TestCode: **8260_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973J_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29393** | TestNo: **SW8260B** | | Analysis Date: **9/9/2011** | SeqNo: **775810** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Trichloroethene | ND | 10.0 | | | | | | | | | |
| Trichlorofluoromethane | ND | 10.0 | | | | | | | | | |
| Vinyl chloride | ND | 10.0 | | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 87.98 | 0 | 100 | 0 | 88 | 71.5 | 112 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 91.05 | 0 | 100 | 0 | 91 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 109.5 | 0 | 100 | 0 | 109 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 125.5 | 0 | 100 | 0 | 126 | 74.9 | 120 | 0 | 0 | | S |

| Sample ID: **LCS-29393** | SampType: **LCS** | TestCode: **8260_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973J_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29393** | TestNo: **SW8260B** | | Analysis Date: **9/9/2011** | SeqNo: **775808** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 82.31 | 10.0 | 60 | 0 | 137 | 65.4 | 133 | 0 | 0 | | S,CN |
| Benzene | 68.05 | 10.0 | 60 | 0 | 113 | 78 | 123 | 0 | 0 | | |
| Chlorobenzene | 65.1 | 10.0 | 60 | 0 | 108 | 79.5 | 125 | 0 | 0 | | |
| Toluene | 65.9 | 10.0 | 60 | 0 | 110 | 77.5 | 132 | 0 | 0 | | |
| Trichloroethene | 67.22 | 10.0 | 60 | 0 | 112 | 72.4 | 124 | 0 | 0 | | |

| Sample ID: **LCSD-29393** | SampType: **LCSD** | TestCode: **8260_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973J_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29393** | TestNo: **SW8260B** | | Analysis Date: **9/9/2011** | SeqNo: **775809** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 79.65 | 10.0 | 80 | 0 | 99.6 | 65.4 | 133 | 82.31 | 3.28 | 20 | |
| Benzene | 65.99 | 10.0 | 80 | 0 | 82.5 | 78 | 123 | 68.05 | 3.07 | 20 | |
| Chlorobenzene | 65.19 | 10.0 | 80 | 0 | 81.5 | 79.5 | 125 | 65.1 | 0.138 | 20 | |
| Toluene | 65.85 | 10.0 | 80 | 0 | 82.3 | 77.5 | 132 | 65.9 | 0.0759 | 20 | |
| Trichloroethene | 65.13 | 10.0 | 80 | 0 | 81.4 | 72.4 | 124 | 67.22 | 3.16 | 20 | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_S**

| Sample ID: **1109062-19BMS** | SampType: **MS** | TestCode: **8260_S** | Units: **µg/Kg-dry** | Prep Date: **9/9/2011** | Run ID: **5973J_110909A** |
|---|---|---|---|---|---|
| Client ID: **SS-24-1** | Batch ID: **29393** | TestNo: **SW8260B** | | Analysis Date: **9/12/2011** | SeqNo: **775817** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 65.73 | 11.0 | 65.79 | 0 | 99.9 | 69.2 | 158 | 0 | 0 | | |
| Benzene | 53.04 | 11.0 | 65.79 | 0 | 80.6 | 71.7 | 147 | 0 | 0 | | |
| Chlorobenzene | 42.41 | 11.0 | 65.79 | 0 | 64.5 | 75 | 148 | 0 | 0 | | S,MI |
| Toluene | 50.48 | 11.0 | 65.79 | 0 | 76.7 | 75.8 | 153 | 0 | 0 | | |
| Trichloroethene | 49.24 | 11.0 | 65.79 | 0 | 74.8 | 77.1 | 138 | 0 | 0 | | S,MI |

| Sample ID: **1109062-19BMSD** | SampType: **MSD** | TestCode: **8260_S** | Units: **µg/Kg-dry** | Prep Date: **9/9/2011** | Run ID: **5973J_110909A** |
|---|---|---|---|---|---|
| Client ID: **SS-24-1** | Batch ID: **29393** | TestNo: **SW8260B** | | Analysis Date: **9/12/2011** | SeqNo: **775818** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 60.42 | 11.0 | 65.79 | 0 | 91.8 | 69.2 | 158 | 65.73 | 8.43 | 20 | |
| Benzene | 47.77 | 11.0 | 65.79 | 0 | 72.6 | 71.7 | 147 | 53.04 | 10.4 | 20 | |
| Chlorobenzene | 31.73 | 11.0 | 65.79 | 0 | 48.2 | 75 | 148 | 42.41 | 28.8 | 20 | S,R,MI |
| Toluene | 41.61 | 11.0 | 65.79 | 0 | 63.3 | 75.8 | 153 | 50.48 | 19.3 | 20 | S,MI |
| Trichloroethene | 40.94 | 11.0 | 65.79 | 0 | 62.2 | 77.1 | 138 | 49.24 | 18.4 | 20 | S,MI |

| Sample ID: **CCB-29393** | SampType: **CCB** | TestCode: **8260_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973J_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **R68889** | TestNo: **SW8260B** | | Analysis Date: **9/12/2011** | SeqNo: **776226** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,1-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichlorobenzene | 2.04 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trichlorobenzene | 1.39 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trimethylbenzene | 0.11 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_S**

Sample ID: **CCB-29393** SampType: **CCB** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5973J_110909A**
Client ID: **ZZZZZ** Batch ID: **R68889** TestNo: **SW8260B** Analysis Date: **9/12/2011** SeqNo: **776226**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromoethane | ND | 5.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichlorobenzene | 0.44 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloroethane | ND | 5.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichlorobenzene | 0.35 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,4-Dichlorobenzene | 0.78 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Butanone | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Chlorotoluene | 0.14 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Hexanone | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Chlorotoluene | 0.23 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Isopropyltoluene | 0.12 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Methyl-2-pentanone | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acetone | ND | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromodichloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromoform | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon disulfide | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon tetrachloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chlorobenzene | 0.19 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroform | 0.17 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloromethane | 0.26 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_S**

Sample ID: **CCB-29393** SampType: **CCB** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5973J_110909A**
Client ID: **ZZZZZ** Batch ID: **R68889** TestNo: **SW8260B** Analysis Date: **9/12/2011** SeqNo: **776226**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dibromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dichlorodifluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ethylbenzene | 0.18 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexachlorobutadiene | 0.64 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Isopropylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| m,p-Xylene | 0.15 | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methyl tert-butyl ether | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methylene chloride | 31.5 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Butylbenzene | 0.31 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Propylbenzene | 0.13 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 3.12 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| o-Xylene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| sec-Butylbenzene | 0.11 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Styrene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| tert-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Tetrachloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Toluene | 0.11 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichlorofluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Vinyl chloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 1,2-Dichloroethane-d4 | 93.45 | 0 | 100 | 0 | 93.4 | 71.5 | 112 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 85.72 | 0 | 100 | 0 | 85.7 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 107.3 | 0 | 100 | 0 | 107 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 120.9 | 0 | 100 | 0 | 121 | 74.9 | 120 | 0 | 0 | | S |

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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_S**

Sample ID: **CCV-29393** SampType: **CCV** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5973J_110909A**
Client ID: **ZZZZZ** Batch ID: **29393** TestNo: **SW8260B** Analysis Date: **9/9/2011** SeqNo: **775807**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 70.56 | 10.0 | 60 | 0 | 118 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 60.51 | 10.0 | 60 | 0 | 101 | 80 | 120 | 0 | 0 | | |
| Chloroform | 61.18 | 10.0 | 60 | 0 | 102 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 65.34 | 10.0 | 60 | 0 | 109 | 80 | 120 | 0 | 0 | | |
| Toluene | 63.61 | 10.0 | 60 | 0 | 106 | 80 | 120 | 0 | 0 | | |
| Vinyl chloride | 63.87 | 10.0 | 60 | 0 | 106 | 80 | 120 | 0 | 0 | | |

Sample ID: **CCV-29393** SampType: **CCV** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5973J_110909A**
Client ID: **ZZZZZ** Batch ID: **R68889** TestNo: **SW8260B** Analysis Date: **9/12/2011** SeqNo: **776225**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 61.17 | 10.0 | 60 | 0 | 102 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 63.55 | 10.0 | 60 | 0 | 106 | 80 | 120 | 0 | 0 | | |
| Chloroform | 57.56 | 10.0 | 60 | 0 | 95.9 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 62.7 | 10.0 | 60 | 0 | 104 | 80 | 120 | 0 | 0 | | |
| Toluene | 59.85 | 10.0 | 60 | 0 | 99.8 | 80 | 120 | 0 | 0 | | |
| Vinyl chloride | 63.45 | 10.0 | 60 | 0 | 106 | 80 | 120 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HCID_NW**

| Sample ID: **MB-29389** | SampType: **MBLK** | TestCode: **HCID_NW** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29389** | TestNo: **NWHCID** | | Analysis Date: **9/9/2011** | SeqNo: **775875** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 13.15 | 20.0 | | | | | | | | | J |
| Mineral Spirits | ND | 20.0 | | | | | | | | | |
| Kerosene | ND | 50.0 | | | | | | | | | |
| Diesel | 20.53 | 50.0 | | | | | | | | | J |
| Lube Oil | 9.1 | 100 | | | | | | | | | J |
| Surr: BFB | 97.48 | 0 | 100 | 0 | 97.5 | 50 | 150 | 0 | 0 | | |
| Surr: o-Terphenyl | 97.36 | 0 | 100 | 0 | 97.4 | 50 | 150 | 0 | 0 | | |

| Sample ID: **1109062-13ADUP** | SampType: **DUP** | TestCode: **HCID_NW** | Units: **mg/Kg-dry** | Prep Date: **9/9/2011** | Run ID: **GC-M_110909A** |
|---|---|---|---|---|---|
| Client ID: **SP-1** | Batch ID: **29389** | TestNo: **NWHCID** | | Analysis Date: **9/9/2011** | SeqNo: **775878** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 5.952 | 22.7 | 0 | 0 | 0 | 0 | 0 | 16.85 | 0 | 20 | J |
| Mineral Spirits | ND | 22.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Kerosene | ND | 56.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Diesel | 38.48 | 56.7 | 0 | 0 | 0 | 0 | 0 | 76.95 | 0 | 20 | J |
| Lube Oil | 334.5 | 113 | 0 | 0 | 0 | 0 | 0 | 910 | 92.5 | 20 | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **MB-29399** | SampType: **MBLK** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776057** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.0167 | | | | | | | | | |

| Sample ID: **MB-29400** | SampType: **MBLK** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29400** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776090** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.0167 | | | | | | | | | |

| Sample ID: **MB-29423** | SampType: **MBLK** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/14/2011** | Run ID: **CVAA_110914A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29423** | TestNo: **SW7471** | | Analysis Date: **9/14/2011** | SeqNo: **776635** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.0167 | | | | | | | | | |

| Sample ID: **LCS-29399** | SampType: **LCS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776056** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.272 | 0.0167 | 0.25 | 0 | 109 | 88.2 | 113 | 0 | 0 | | |

| Sample ID: **LCS-29400** | SampType: **LCS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29400** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776089** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2592 | 0.0167 | 0.25 | 0 | 104 | 88.2 | 113 | 0 | 0 | | |

| Sample ID: **LCS-29423** | SampType: **LCS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/14/2011** | Run ID: **CVAA_110914A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29423** | TestNo: **SW7471** | | Analysis Date: **9/14/2011** | SeqNo: **776634** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **LCS-29423** | SampType: **LCS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/14/2011** | Run ID: **CVAA_110914A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29423** | TestNo: **SW7471** | | Analysis Date: **9/14/2011** | SeqNo: **776634** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2662 | 0.0167 | 0.25 | 0 | 106 | 88.2 | 113 | 0 | 0 | | |

| Sample ID: **1109076-02AMS** | SampType: **MS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776053** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.1629 | 0.00737 | 0.1103 | 0.09887 | 58.1 | 78.1 | 125 | 0 | 0 | | S,MI |

| Sample ID: **1109062-05AMS** | SampType: **MS** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912C** |
|---|---|---|---|---|---|
| Client ID: **SS-3-1** | Batch ID: **29400** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776069** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2474 | 0.0145 | 0.2167 | 0.03291 | 99 | 78.1 | 125 | 0 | 0 | | |

| Sample ID: **1109062-27AMS** | SampType: **MS** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **9/14/2011** | Run ID: **CVAA_110914A** |
|---|---|---|---|---|---|
| Client ID: **SS-16-1** | Batch ID: **29423** | TestNo: **SW7471** | | Analysis Date: **9/14/2011** | SeqNo: **776709** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.3408 | 0.0180 | 0.2693 | 0.06249 | 103 | 78.1 | 125 | 0 | 0 | | |

| Sample ID: **1109076-02AMSD** | SampType: **MSD** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776054** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.1741 | 0.00783 | 0.1172 | 0.09887 | 64.2 | 78.1 | 125 | 0.1629 | 6.62 | 20 | S,MI |

| Sample ID: **1109062-05AMSD** | SampType: **MSD** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912C** |
|---|---|---|---|---|---|
| Client ID: **SS-3-1** | Batch ID: **29400** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776070** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **1109062-05AMSD** | SampType: **MSD** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912C** |
|---|---|---|---|---|---|
| Client ID: **SS-3-1** | Batch ID: **29400** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776070** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2491 | 0.0145 | 0.2167 | 0.03291 | 99.7 | 78.1 | 125 | 0.2474 | 0.669 | 20 | |

| Sample ID: **1109062-27AMSD** | SampType: **MSD** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **9/14/2011** | Run ID: **CVAA_110914A** |
|---|---|---|---|---|---|
| Client ID: **SS-16-1** | Batch ID: **29423** | TestNo: **SW7471** | | Analysis Date: **9/14/2011** | SeqNo: **776710** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.3159 | 0.0175 | 0.2614 | 0.06249 | 97 | 78.1 | 125 | 0.3159 | 0 | 20 | |

| Sample ID: **1109076-02ADUP** | SampType: **DUP** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776052** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.05723 | 0.00783 | 0 | 0 | 0 | 0 | 0 | 0.09887 | 53.4 | 20 | R,MI |

| Sample ID: **1109062-05ADUP** | SampType: **DUP** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **9/12/2011** | Run ID: **CVAA_110912C** |
|---|---|---|---|---|---|
| Client ID: **SS-3-1** | Batch ID: **29400** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776068** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.03021 | 0.0145 | 0 | 0 | 0 | 0 | 0 | 0.03291 | 8.56 | 20 | |

| Sample ID: **1109062-27ADUP** | SampType: **DUP** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **9/14/2011** | Run ID: **CVAA_110914A** |
|---|---|---|---|---|---|
| Client ID: **SS-16-1** | Batch ID: **29423** | TestNo: **SW7471** | | Analysis Date: **9/14/2011** | SeqNo: **776628** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.04013 | 0.0191 | 0 | 0 | 0 | 0 | 0 | 0.06249 | 43.6 | 20 | RF |

| Sample ID: **CCV-29399** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776055** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **CCV-29399** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776055** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2602 | 0.0167 | 0.25 | 0 | 104 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV-29399** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_110912B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29399** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776066** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2562 | 0.0167 | 0.25 | 0 | 102 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV-29400** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29400** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776087** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2552 | 0.0167 | 0.25 | 0 | 102 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV-29400** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29400** | TestNo: **SW7471** | | Analysis Date: **9/12/2011** | SeqNo: **776088** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2583 | 0.0167 | 0.25 | 0 | 103 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_110914A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29423** | TestNo: **SW7471** | | Analysis Date: **9/14/2011** | SeqNo: **776636** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2665 | 0.0167 | 0.25 | 0 | 107 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_110914A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29423** | TestNo: **SW7471** | | Analysis Date: **9/14/2011** | SeqNo: **776637** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

Sample ID: **CCV** SampType: **CCV** TestCode: **HG_CTS** Units: **mg/Kg** Prep Date: Run ID: **CVAA_110914A**
Client ID: **ZZZZZ** Batch ID: **29423** TestNo: **SW7471** Analysis Date: **9/14/2011** SeqNo: **776637**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2683 | 0.0167 | 0.25 | 0 | 107 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **HG_CTS** Units: **mg/Kg** Prep Date: Run ID: **CVAA_110914A**
Client ID: **ZZZZZ** Batch ID: **29423** TestNo: **SW7471** Analysis Date: **9/14/2011** SeqNo: **776708**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2622 | 0.0167 | 0.25 | 0 | 105 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **HG_CTS** Units: **mg/Kg** Prep Date: Run ID: **CVAA_110914A**
Client ID: **ZZZZZ** Batch ID: **29423** TestNo: **SW7471** Analysis Date: **9/14/2011** SeqNo: **776711**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2592 | 0.0167 | 0.25 | 0 | 104 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

| Sample ID: **MB-29407** | SampType: **MBLK** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **GC-M_110913A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29407** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/13/2011** | SeqNo: **776399** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | | | | | | | | | |
| Lube Oil | ND | 50.0 | | | | | | | | | |
| Surr: o-Terphenyl | 32.22 | 0 | 33.33 | 0 | 96.7 | 50 | 150 | 0 | 0 | | |

| Sample ID: **MB-29413** | SampType: **MBLK** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **9/13/2011** | Run ID: **GC-M_110914A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29413** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/14/2011** | SeqNo: **776752** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | | | | | | | | | |
| Hydraulic Oil | ND | 50.0 | | | | | | | | | |
| Lube Oil | ND | 50.0 | | | | | | | | | |
| Surr: o-Terphenyl | 32.43 | 0 | 33.33 | 0 | 97.3 | 50 | 150 | 0 | 0 | | |

| Sample ID: **MB-29441** | SampType: **MBLK** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **9/15/2011** | Run ID: **GC-M_110915A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29441** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/15/2011** | SeqNo: **777145** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | | | | | | | | | |
| Lube Oil | 17.39 | 50.0 | | | | | | | | | J |
| Surr: o-Terphenyl | 34.25 | 0 | 33.33 | 0 | 103 | 50 | 150 | 0 | 0 | | |

| Sample ID: **MB-29447** | SampType: **MBLK** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **9/16/2011** | Run ID: **GC-M_110916B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29447** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/16/2011** | SeqNo: **777529** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | | | | | | | | | |
| Lube Oil | ND | 50.0 | | | | | | | | | |
| Surr: o-Terphenyl | 30.06 | 0 | 33.33 | 0 | 90.2 | 50 | 150 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

Sample ID: **LCS-29407** SampType: **LCS** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: **9/12/2011** Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/13/2011** SeqNo: **776400**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 181.6 | 15.0 | 166.6 | 0 | 109 | 76.3 | 125 | 0 | 0 | | |
| Lube Oil | 188.8 | 50.0 | 166.6 | 0 | 113 | 69.9 | 127 | 0 | 0 | | |

Sample ID: **LCS-29413** SampType: **LCS** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: **9/13/2011** Run ID: **GC-M_110914A**
Client ID: **ZZZZZ** Batch ID: **29413** TestNo: **NWTPH-Dx** Analysis Date: **9/14/2011** SeqNo: **776760**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 180.3 | 15.0 | 166.6 | 0 | 108 | 76.3 | 125 | 0 | 0 | | |
| Lube Oil | 187 | 50.0 | 166.6 | 0 | 112 | 69.9 | 127 | 0 | 0 | | |

Sample ID: **LCS-29441** SampType: **LCS** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: **9/15/2011** Run ID: **GC-M_110915A**
Client ID: **ZZZZZ** Batch ID: **29441** TestNo: **NWTPH-Dx** Analysis Date: **9/15/2011** SeqNo: **777146**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 176.8 | 15.0 | 166.6 | 0 | 106 | 76.3 | 125 | 0 | 0 | | |
| Lube Oil | 175.6 | 50.0 | 166.6 | 0 | 105 | 69.9 | 127 | 0 | 0 | | |

Sample ID: **LCS-29447** SampType: **LCS** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: **9/16/2011** Run ID: **GC-M_110916B**
Client ID: **ZZZZZ** Batch ID: **29447** TestNo: **NWTPH-Dx** Analysis Date: **9/16/2011** SeqNo: **777530**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lube Oil | 143.8 | 50.0 | 166.6 | 0 | 86.3 | 69.9 | 127 | 0 | 0 | | |

Sample ID: **LCS-29447** SampType: **LCS** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: **9/16/2011** Run ID: **GC-M_110916B**
Client ID: **ZZZZZ** Batch ID: **29447** TestNo: **NWTPH-Dx** Analysis Date: **9/19/2011** SeqNo: **777637**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 130 | 15.0 | 166.6 | 0 | 78 | 76.3 | 125 | 0 | 0 | | |

**Qualifiers:**
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

Sample ID: **1109056-01ADUP** SampType: **DUP** TestCode: **NWTPHDX_S** Units: **mg/Kg-dry** Prep Date: **9/12/2011** Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/13/2011** SeqNo: **776402**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 2022 | 16.4 | 0 | 0 | 0 | 0 | 0 | 1969 | 2.66 | 20 | |
| Lube Oil | 71.52 | 54.6 | 0 | 0 | 0 | 0 | 0 | 79.15 | 10.1 | 20 | M |

Sample ID: **1109045-07ADUP** SampType: **DUP** TestCode: **NWTPHDX_S** Units: **mg/Kg-dry** Prep Date: **9/12/2011** Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/13/2011** SeqNo: **776483**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 117.5 | 24.8 | 0 | 0 | 0 | 0 | 0 | 186.5 | 45.4 | 20 | R,MI,A1 |
| Lube Oil | 764.2 | 82.6 | 0 | 0 | 0 | 0 | 0 | 1139 | 39.4 | 20 | R,MI,A2 |

Sample ID: **1108147-11ADUP** SampType: **DUP** TestCode: **NWTPHDX_S** Units: **mg/Kg-dry** Prep Date: **9/13/2011** Run ID: **GC-M_110914A**
Client ID: **ZZZZZ** Batch ID: **29413** TestNo: **NWTPH-Dx** Analysis Date: **9/14/2011** SeqNo: **776755**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 20.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Lube Oil | ND | 67.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |

Sample ID: **1109070-07ADUP** SampType: **DUP** TestCode: **NWTPHDX_S** Units: **mg/Kg-dry** Prep Date: **9/15/2011** Run ID: **GC-M_110915A**
Client ID: **ZZZZZ** Batch ID: **29441** TestNo: **NWTPH-Dx** Analysis Date: **9/15/2011** SeqNo: **777149**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 18.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Lube Oil | 34.45 | 60.8 | 0 | 0 | 0 | 0 | 0 | 38.11 | 0 | 20 | J |

Sample ID: **1109062-30ADUP** SampType: **DUP** TestCode: **NWTPHDX_S** Units: **mg/Kg-dry** Prep Date: **9/15/2011** Run ID: **GC-M_110915A**
Client ID: **SS-18-1** Batch ID: **29441** TestNo: **NWTPH-Dx** Analysis Date: **9/15/2011** SeqNo: **777157**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 165.5 | 20.2 | 0 | 0 | 0 | 0 | 0 | 145.8 | 12.7 | 20 | A1 |
| Lube Oil | 444.8 | 67.3 | 0 | 0 | 0 | 0 | 0 | 381.7 | 15.3 | 20 | A2 |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

| Sample ID: **1109062-16ADUP** | SampType: **DUP** | TestCode: **NWTPHDX_S** | Units: **mg/Kg-dry** | Prep Date: **9/13/2011** | Run ID: **GC-M_110914A** |
|---|---|---|---|---|---|
| Client ID: **SS-21-0.5** | Batch ID: **29413** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/15/2011** | SeqNo: **777168** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 18.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Lube Oil | 34.2 | 60.3 | 0 | 0 | 0 | 0 | 0 | 35.91 | 0 | 20 | J |

| Sample ID: **1109062-15ADUP** | SampType: **DUP** | TestCode: **NWTPHDX_S** | Units: **mg/Kg-dry** | Prep Date: **9/16/2011** | Run ID: **GC-M_110916B** |
|---|---|---|---|---|---|
| Client ID: **SP-3** | Batch ID: **29447** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/16/2011** | SeqNo: **777536** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | A3 |
| Lube Oil | 168.3 | 50.5 | 0 | 0 | 0 | 0 | 0 | 163.6 | 2.85 | 20 | |

| Sample ID: **1109062-14ADUP** | SampType: **DUP** | TestCode: **NWTPHDX_S** | Units: **mg/Kg-dry** | Prep Date: **9/19/2011** | Run ID: **GC-M_110921A** |
|---|---|---|---|---|---|
| Client ID: **SP-2** | Batch ID: **29465** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/21/2011** | SeqNo: **778535** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 45.71 | 15.6 | 0 | 0 | 0 | 0 | 0 | 0 | 200 | 20 | R,MI |
| Lube Oil | 329 | 52.0 | 0 | 0 | 0 | 0 | 0 | 183.1 | 57.0 | 20 | R,MI |

| Sample ID: **CCB** | SampType: **CCB** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **GC-M_110913A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29407** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/14/2011** | SeqNo: **776705** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Lube Oil | 4.553 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: o-Terphenyl | 32.69 | 0 | 33.33 | 0 | 98.1 | 50 | 150 | 0 | 0 | | |

| Sample ID: **CCB** | SampType: **CCB** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_110914A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29413** | TestNo: **NWTPH-Dx** | | Analysis Date: **9/15/2011** | SeqNo: **777165** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

Sample ID: **CCB** SampType: **CCB** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110914A**
Client ID: **ZZZZZ** Batch ID: **29413** TestNo: **NWTPH-Dx** Analysis Date: **9/15/2011** SeqNo: **777165**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lube Oil | 22.43 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: o-Terphenyl | 32.76 | 0 | 33.33 | 0 | 98.3 | 50 | 150 | 0 | 0 | | |

Sample ID: **CCB-29447** SampType: **CCB** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: **9/16/2011** Run ID: **GC-M_110916B**
Client ID: **ZZZZZ** Batch ID: **29447** TestNo: **NWTPH-Dx** Analysis Date: **9/19/2011** SeqNo: **777636**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hydraulic Oil | ND | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Lube Oil | 4.727 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: o-Terphenyl | 29.99 | 0 | 33.33 | 0 | 90 | 50 | 150 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/13/2011** SeqNo: **776398**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1052 | 15.0 | 1009 | 0 | 104 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 586.3 | 50.0 | 524.9 | 0 | 112 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/13/2011** SeqNo: **776412**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1368 | 15.0 | 1346 | 0 | 102 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 740.4 | 50.0 | 699.9 | 0 | 106 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/13/2011** SeqNo: **776492**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
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J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/13/2011** SeqNo: **776492**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1005 | 15.0 | 1009 | 0 | 99.6 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 544.2 | 50.0 | 524.9 | 0 | 104 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/14/2011** SeqNo: **776703**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1046 | 15.0 | 1009 | 0 | 104 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 548.1 | 50.0 | 524.9 | 0 | 104 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110913A**
Client ID: **ZZZZZ** Batch ID: **29407** TestNo: **NWTPH-Dx** Analysis Date: **9/14/2011** SeqNo: **776707**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1054 | 15.0 | 1009 | 0 | 104 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 556.7 | 50.0 | 524.9 | 0 | 106 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110914A**
Client ID: **ZZZZZ** Batch ID: **29413** TestNo: **NWTPH-Dx** Analysis Date: **9/14/2011** SeqNo: **776751**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1054 | 15.0 | 1009 | 0 | 104 | 85 | 115 | 0 | 0 | | |
| Hydraulic Oil | 552.1 | 50.0 | 500 | 0 | 110 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 556.7 | 50.0 | 524.9 | 0 | 106 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110914A**
Client ID: **ZZZZZ** Batch ID: **29413** TestNo: **NWTPH-Dx** Analysis Date: **9/14/2011** SeqNo: **776761**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1385 | 15.0 | 1346 | 0 | 103 | 85 | 115 | 0 | 0 | | |

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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110914A**
Client ID: **ZZZZZ** Batch ID: **29413** TestNo: **NWTPH-Dx** Analysis Date: **9/14/2011** SeqNo: **776761**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Hydraulic Oil | 712.7 | 50.0 | 666.6 | 0 | 107 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 681.1 | 50.0 | 699.9 | 0 | 97.3 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110915A**
Client ID: **ZZZZZ** Batch ID: **29441** TestNo: **NWTPH-Dx** Analysis Date: **9/15/2011** SeqNo: **777144**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1067 | 15.0 | 1009 | 0 | 106 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 550.9 | 50.0 | 524.9 | 0 | 105 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110915A**
Client ID: **ZZZZZ** Batch ID: **29441** TestNo: **NWTPH-Dx** Analysis Date: **9/15/2011** SeqNo: **777161**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1496 | 15.0 | 1346 | 0 | 111 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 764.6 | 50.0 | 699.9 | 0 | 109 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110914A**
Client ID: **ZZZZZ** Batch ID: **29413** TestNo: **NWTPH-Dx** Analysis Date: **9/15/2011** SeqNo: **777164**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1067 | 15.0 | 1009 | 0 | 106 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 550.9 | 50.0 | 524.9 | 0 | 105 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110914A**
Client ID: **ZZZZZ** Batch ID: **29413** TestNo: **NWTPH-Dx** Analysis Date: **9/15/2011** SeqNo: **777166**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1496 | 15.0 | 1346 | 0 | 111 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 764.6 | 50.0 | 699.9 | 0 | 109 | 85 | 115 | 0 | 0 | | |

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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110914A**
Client ID: **ZZZZZ** Batch ID: **29413** TestNo: **NWTPH-Dx** Analysis Date: **9/15/2011** SeqNo: **777180**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1127 | 15.0 | 1009 | 0 | 112 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 516.4 | 50.0 | 524.9 | 0 | 98.4 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110916B**
Client ID: **ZZZZZ** Batch ID: **29447** TestNo: **NWTPH-Dx** Analysis Date: **9/16/2011** SeqNo: **777528**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1028 | 15.0 | 1009 | 0 | 102 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 553.9 | 50.0 | 524.9 | 0 | 106 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110916B**
Client ID: **ZZZZZ** Batch ID: **29447** TestNo: **NWTPH-Dx** Analysis Date: **9/16/2011** SeqNo: **777539**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1383 | 15.0 | 1346 | 0 | 103 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 721.1 | 50.0 | 699.9 | 0 | 103 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110916B**
Client ID: **ZZZZZ** Batch ID: **29447** TestNo: **NWTPH-Dx** Analysis Date: **9/19/2011** SeqNo: **777635**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1017 | 15.0 | 1009 | 0 | 101 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 544.4 | 50.0 | 524.9 | 0 | 104 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110916B**
Client ID: **ZZZZZ** Batch ID: **29447** TestNo: **NWTPH-Dx** Analysis Date: **9/19/2011** SeqNo: **777663**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1346 | 15.0 | 1346 | 0 | 100 | 85 | 115 | 0 | 0 | | |
| Hydraulic Oil | 717.5 | 50.0 | 694.8 | 0 | 103 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110916B**
Client ID: **ZZZZZ** Batch ID: **29447** TestNo: **NWTPH-Dx** Analysis Date: **9/19/2011** SeqNo: **777663**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lube Oil | 742.6 | 50.0 | 699.9 | 0 | 106 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110921A**
Client ID: **ZZZZZ** Batch ID: **29470** TestNo: **NWTPH-Dx** Analysis Date: **9/21/2011** SeqNo: **778531**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1039 | 15.0 | 1009 | 0 | 103 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 600.9 | 50.0 | 524.9 | 0 | 114 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDX_S** Units: **mg/Kg** Prep Date: Run ID: **GC-M_110921A**
Client ID: **ZZZZZ** Batch ID: **29470** TestNo: **NWTPH-Dx** Analysis Date: **9/21/2011** SeqNo: **778536**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1473 | 15.0 | 1346 | 0 | 109 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 789.8 | 50.0 | 699.9 | 0 | 113 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHGX_S**

| Sample ID: **MB-29383** | SampType: **MBLK** | TestCode: **NWTPHGX_S** | Units: **mg/Kg** | Prep Date: **9/9/2011** | Run ID: **GC-S_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29383** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/9/2011** | SeqNo: **775675** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 2.422 | 2.50 | | | | | | | | | J |
| Surr: 4-Bromofluorobenzene | 3.916 | 0 | 5 | 0 | 78.3 | 50 | 150 | 0 | 0 | | |

| Sample ID: **MB-29383** | SampType: **MBLK** | TestCode: **NWTPHGX_S** | Units: **mg/Kg** | Prep Date: **9/9/2011** | Run ID: **GC-I_110909B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29383** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/9/2011** | SeqNo: **775888** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 2.188 | 2.50 | | | | | | | | | J |
| Surr: 4-Bromofluorobenzene | 4.735 | 0 | 5 | 0 | 94.7 | 50 | 150 | 0 | 0 | | |

| Sample ID: **LCS-29383** | SampType: **LCS** | TestCode: **NWTPHGX_S** | Units: **mg/Kg** | Prep Date: **9/9/2011** | Run ID: **GC-S_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29383** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/9/2011** | SeqNo: **775674** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 50.9 | 2.50 | 50 | 0 | 102 | 53.5 | 121 | 0 | 0 | | |

| Sample ID: **LCS-29383** | SampType: **LCS** | TestCode: **NWTPHGX_S** | Units: **mg/Kg** | Prep Date: **9/9/2011** | Run ID: **GC-I_110909B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29383** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/9/2011** | SeqNo: **775887** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 44.26 | 2.50 | 50 | 0 | 88.5 | 53.5 | 121 | 0 | 0 | | |

| Sample ID: **1109062-19ADUP** | SampType: **DUP** | TestCode: **NWTPHGX_S** | Units: **mg/Kg-dry** | Prep Date: **9/9/2011** | Run ID: **GC-S_110909A** |
|---|---|---|---|---|---|
| Client ID: **SS-24-1** | Batch ID: **29383** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/9/2011** | SeqNo: **775680** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | ND | 2.74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHGX_S**

| Sample ID: **1109067-02ADUP** | SampType: **DUP** | TestCode: **NWTPHGX_S** | Units: **mg/Kg-dry** | Prep Date: **9/9/2011** | Run ID: **GC-I_110909B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29383** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/9/2011** | SeqNo: **775891** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | ND | 3.37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHGX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-S_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29383** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/9/2011** | SeqNo: **775673** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 97.41 | 2.50 | 100 | 0 | 97.4 | 80 | 120 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHGX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-S_110909A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29383** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/9/2011** | SeqNo: **775683** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 122.8 | 2.50 | 125 | 0 | 98.3 | 80 | 120 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHGX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-I_110909B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29383** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/9/2011** | SeqNo: **775886** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 83.96 | 2.50 | 100 | 0 | 84 | 80 | 120 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHGX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-I_110909B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29383** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/9/2011** | SeqNo: **775892** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 127.9 | 2.50 | 150 | 0 | 85.3 | 80 | 120 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHGX_SA**

| Sample ID: **MB-29404** | SampType: **MBLK** | TestCode: **NWTPHGX_S** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **GC-I_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29404** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/12/2011** | SeqNo: **776263** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | ND | 2.50 | | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 4.675 | 0 | 5 | 0 | 93.5 | 50 | 150 | 0 | 0 | | |

| Sample ID: **LCS-29404** | SampType: **LCS** | TestCode: **NWTPHGX_S** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **GC-I_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29404** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/12/2011** | SeqNo: **776264** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 42.39 | 2.50 | 50 | 0 | 84.8 | 53.5 | 121 | 0 | 0 | | |

| Sample ID: **A1109070-18ADUP** | SampType: **DUP** | TestCode: **NWTPHGX_S** | Units: **mg/Kg** | Prep Date: **9/12/2011** | Run ID: **GC-I_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29404** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/12/2011** | SeqNo: **776266** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | ND | 2.50 | 0 | 0 | 0 | 0 | 0 | 1.133 | 0 | 20 | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHGX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-I_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29404** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/12/2011** | SeqNo: **776262** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 119.1 | 2.50 | 125 | 0 | 95.3 | 80 | 120 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHGX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-I_110912C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29404** | TestNo: **NWTPH-Gx** | | Analysis Date: **9/12/2011** | SeqNo: **776274** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline | 128 | 2.50 | 150 | 0 | 85.4 | 80 | 120 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **MB-29392** | SampType: **MBLK** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **9/9/2011** | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/14/2011** | SeqNo: **776886** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ND | 6.67 | | | | | | | | | |
| 2-Methylnaphthalene | ND | 6.67 | | | | | | | | | |
| Acenaphthene | ND | 6.67 | | | | | | | | | |
| Acenaphthylene | ND | 6.67 | | | | | | | | | |
| Anthracene | ND | 6.67 | | | | | | | | | |
| Benz(a)anthracene | ND | 6.67 | | | | | | | | | |
| Benzo(a)pyrene | ND | 6.67 | | | | | | | | | |
| Benzo(b)fluoranthene | ND | 6.67 | | | | | | | | | |
| Benzo(g,h,i)perylene | ND | 6.67 | | | | | | | | | |
| Benzo(k)fluoranthene | ND | 6.67 | | | | | | | | | |
| Chrysene | ND | 6.67 | | | | | | | | | |
| Dibenz(a,h)anthracene | ND | 6.67 | | | | | | | | | |
| Fluoranthene | ND | 6.67 | | | | | | | | | |
| Fluorene | ND | 6.67 | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 6.67 | | | | | | | | | |
| Naphthalene | ND | 6.67 | | | | | | | | | |
| Phenanthrene | ND | 6.67 | | | | | | | | | |
| Pyrene | ND | 6.67 | | | | | | | | | |
| Surr: 2-Fluorobiphenyl | 5309 | 0 | 6667 | 0 | 79.6 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 4649 | 0 | 6667 | 0 | 69.7 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 6413 | 0 | 6667 | 0 | 96.2 | 44.9 | 155 | 0 | 0 | | |

| Sample ID: **LCS-29392** | SampType: **LCS** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **9/9/2011** | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/15/2011** | SeqNo: **776899** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 237.3 | 6.67 | 333.3 | 0 | 71.2 | 39.6 | 107 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 250 | 6.67 | 333.3 | 0 | 75 | 49.7 | 135 | 0 | 0 | | |
| Chrysene | 286 | 6.67 | 333.3 | 0 | 85.8 | 57.1 | 130 | 0 | 0 | | |
| Naphthalene | 210.7 | 6.67 | 333.3 | 0 | 63.2 | 29.1 | 109 | 0 | 0 | | |
| Phenanthrene | 310 | 6.67 | 333.3 | 0 | 93 | 48.4 | 115 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **LCS-29392** | SampType: **LCS** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **9/9/2011** | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/15/2011** | SeqNo: **776899** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pyrene | 282.7 | 6.67 | 333.3 | 0 | 84.8 | 47.2 | 134 | 0 | 0 | | |

| Sample ID: **1109062-07AMS** | SampType: **MS** | TestCode: **PAHLL_S** | Units: **µg/Kg-dry** | Prep Date: **9/9/2011** | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **TP-9-2** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/15/2011** | SeqNo: **776900** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 307.8 | 8.82 | 440.9 | 1.764 | 69.4 | 33.7 | 111 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 301.6 | 8.82 | 440.9 | 15.87 | 64.8 | 15 | 128 | 0 | 0 | | |
| Chrysene | 353.6 | 8.82 | 440.9 | 14.11 | 77 | 37.5 | 125 | 0 | 0 | | |
| Naphthalene | 240.7 | 8.82 | 440.9 | 7.937 | 52.8 | 27.7 | 108 | 0 | 0 | | |
| Phenanthrene | 421.5 | 8.82 | 440.9 | 29.98 | 88.8 | 20.2 | 139 | 0 | 0 | | |
| Pyrene | 362.4 | 8.82 | 440.9 | 32.63 | 74.8 | 26.8 | 142 | 0 | 0 | | |

| Sample ID: **1109062-07AMSD** | SampType: **MSD** | TestCode: **PAHLL_S** | Units: **µg/Kg-dry** | Prep Date: **9/9/2011** | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **TP-9-2** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/15/2011** | SeqNo: **776901** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 323.6 | 8.82 | 440.9 | 1.764 | 73 | 33.7 | 111 | 307.8 | 5.03 | 20 | |
| Benzo(g,h,i)perylene | 364.2 | 8.82 | 440.9 | 15.87 | 79 | 15 | 128 | 301.6 | 18.8 | 20 | |
| Chrysene | 380.1 | 8.82 | 440.9 | 14.11 | 83 | 37.5 | 125 | 353.6 | 7.21 | 20 | |
| Naphthalene | 252.2 | 8.82 | 440.9 | 7.937 | 55.4 | 27.7 | 108 | 240.7 | 4.65 | 20 | |
| Phenanthrene | 451.5 | 8.82 | 440.9 | 29.98 | 95.6 | 20.2 | 139 | 421.5 | 6.87 | 20 | |
| Pyrene | 395.1 | 8.82 | 440.9 | 32.63 | 82.2 | 26.8 | 142 | 362.4 | 8.61 | 20 | |

| Sample ID: **CCB-29392** | SampType: **CCB** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/15/2011** | SeqNo: **777216** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Methylnaphthalene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **CCB-29392** | SampType: **CCB** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/15/2011** | SeqNo: **777216** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthylene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benz(a)anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(a)pyrene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(b)fluoranthene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(g,h,i)perylene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(k)fluoranthene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chrysene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibenz(a,h)anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluoranthene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluorene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Phenanthrene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Pyrene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 2-Fluorobiphenyl | 5199 | 0 | 6667 | 0 | 78 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 4914 | 0 | 6667 | 0 | 73.7 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 6822 | 0 | 6667 | 0 | 102 | 44.9 | 155 | 0 | 0 | | |

| Sample ID: **CCB-29392** | SampType: **CCB** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/17/2011** | SeqNo: **777442** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Methylnaphthalene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthylene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benz(a)anthracene | 3.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(a)pyrene | 3.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(b)fluoranthene | 4 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **CCB-29392** SampType: **CCB** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_110914B**
Client ID: **ZZZZZ** Batch ID: **29392** TestNo: **8270SIM** Analysis Date: **9/17/2011** SeqNo: **777442**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzo(g,h,i)perylene | 2.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(k)fluoranthene | 4 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chrysene | 2.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluoranthene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluorene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 2.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Phenanthrene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Pyrene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 2-Fluorobiphenyl | 3989 | 0 | 6667 | 0 | 59.8 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 3741 | 0 | 6667 | 0 | 56.1 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 5579 | 0 | 6667 | 0 | 83.7 | 44.9 | 155 | 0 | 0 | | |

Sample ID: **CCV-29392** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_110914B**
Client ID: **ZZZZZ** Batch ID: **29392** TestNo: **8270SIM** Analysis Date: **9/14/2011** SeqNo: **776885**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 316 | 6.67 | 333.3 | 0 | 94.8 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 327.3 | 6.67 | 333.3 | 0 | 98.2 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 328.7 | 6.67 | 333.3 | 0 | 98.6 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 320 | 6.67 | 333.3 | 0 | 96 | 70 | 130 | 0 | 0 | | |
| Anthracene | 321.3 | 6.67 | 333.3 | 0 | 96.4 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 298 | 6.67 | 333.3 | 0 | 89.4 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 356 | 6.67 | 333.3 | 0 | 107 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 343.3 | 6.67 | 333.3 | 0 | 103 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 348.7 | 6.67 | 333.3 | 0 | 105 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 351.3 | 6.67 | 333.3 | 0 | 105 | 70 | 130 | 0 | 0 | | |
| Chrysene | 322 | 6.67 | 333.3 | 0 | 96.6 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 339.3 | 6.67 | 333.3 | 0 | 102 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 316 | 6.67 | 333.3 | 0 | 94.8 | 70 | 130 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **CCV-29392** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/14/2011** | SeqNo: **776885** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Fluorene | 318 | 6.67 | 333.3 | 0 | 95.4 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 362.7 | 6.67 | 333.3 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 310 | 6.67 | 333.3 | 0 | 93 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 396 | 6.67 | 333.3 | 0 | 119 | 70 | 130 | 0 | 0 | | |
| Pyrene | 323.3 | 6.67 | 333.3 | 0 | 97 | 70 | 130 | 0 | 0 | | |

| Sample ID: **CCV-29392** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5975Q_110914B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29392** | TestNo: **8270SIM** | | Analysis Date: **9/15/2011** | SeqNo: **777215** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 122.7 | 6.67 | 133.3 | 0 | 92 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 126 | 6.67 | 133.3 | 0 | 94.5 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 130 | 6.67 | 133.3 | 0 | 97.5 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 136.7 | 6.67 | 133.3 | 0 | 102 | 70 | 130 | 0 | 0 | | |
| Anthracene | 130.7 | 6.67 | 133.3 | 0 | 98 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 118 | 6.67 | 133.3 | 0 | 88.5 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 133.3 | 6.67 | 133.3 | 0 | 100 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 124.7 | 6.67 | 133.3 | 0 | 93.5 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 121.3 | 6.67 | 133.3 | 0 | 91 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 128.7 | 6.67 | 133.3 | 0 | 96.5 | 70 | 130 | 0 | 0 | | |
| Chrysene | 127.3 | 6.67 | 133.3 | 0 | 95.5 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 126.7 | 6.67 | 133.3 | 0 | 95 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 120.7 | 6.67 | 133.3 | 0 | 90.5 | 70 | 130 | 0 | 0 | | |
| Fluorene | 135.3 | 6.67 | 133.3 | 0 | 101 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 133.3 | 6.67 | 133.3 | 0 | 100 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 122 | 6.67 | 133.3 | 0 | 91.5 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 146 | 6.67 | 133.3 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Pyrene | 144.7 | 6.67 | 133.3 | 0 | 108 | 70 | 130 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109062
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **CCV-29392** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_110914B**
Client ID: **ZZZZZ** Batch ID: **29392** TestNo: **8270SIM** Analysis Date: **9/17/2011** SeqNo: **777441**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 356.7 | 6.67 | 333.3 | 0 | 107 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 358 | 6.67 | 333.3 | 0 | 107 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 360.7 | 6.67 | 333.3 | 0 | 108 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 371.3 | 6.67 | 333.3 | 0 | 111 | 70 | 130 | 0 | 0 | | |
| Anthracene | 372 | 6.67 | 333.3 | 0 | 112 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 334.7 | 6.67 | 333.3 | 0 | 100 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 389.3 | 6.67 | 333.3 | 0 | 117 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 386 | 6.67 | 333.3 | 0 | 116 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 342 | 6.67 | 333.3 | 0 | 103 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 406 | 6.67 | 333.3 | 0 | 122 | 70 | 130 | 0 | 0 | | |
| Chrysene | 358 | 6.67 | 333.3 | 0 | 107 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 359.3 | 6.67 | 333.3 | 0 | 108 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 362.7 | 6.67 | 333.3 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Fluorene | 380.7 | 6.67 | 333.3 | 0 | 114 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 376.7 | 6.67 | 333.3 | 0 | 113 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 348 | 6.67 | 333.3 | 0 | 104 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 393.3 | 6.67 | 333.3 | 0 | 118 | 70 | 130 | 0 | 0 | | |
| Pyrene | 377.3 | 6.67 | 333.3 | 0 | 113 | 70 | 130 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

# KEY TO FLAGS

Rev. May 12, 2010

| | |
|---|---|
| A | This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards |
| A1 | This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards. |
| A2 | This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard. |
| A3 | The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type. |
| A4 | The product appears to be aged or degraded diesel. |
| B | The blank exhibited a positive result great than the reporting limit for this compound. |
| CN | See Case Narrative. |
| D | Result is based from a dilution. |
| E | Result exceeds the calibration range for this compound. The result should be considered as estimate. |
| F | The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library. |
| G | Result may be biased high due to biogenic interferences. Clean up is recommended. |
| H | Sample was analyzed outside recommended holding time. |
| HT | At clients request, samples was analyzed outside of recommended holding time. |
| J | The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration. |
| K | Diesel result is biased high due to amount of Oil contained in the sample. |
| L | Diesel result is biased high due to amount of Gasoline contained in the sample. |
| M | Oil result is biased high due to amount of Diesel contained in the sample. |
| MC | Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant. |
| MI | Result is outside control limits due to matrix interference. |
| MSA | Value determined by Method of Standard Addition. |
| O | Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements. |
| Q | Detection levels elevated due to sample matrix. |
| R | RPD control limits were exceeded. |
| RF | Duplicate failed due to result being at or near the method-reporting limit. |
| RP | Matrix spike values exceed established QC limits; post digestion spike is in control. |
| S | Recovery is outside control limits. |
| SC | Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements. |
| * | The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit. |

# CHAIN OF CUSTODY RECORD

Page 1 of ___


## Specialty Analytical
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336


Contact Person/Project Manager: Christina Johnson
Company: MFA
Address: 7223 NE Hazel Dell #Suite B

Phone: 360.433.0249 Fax: ___

Project No. 0229.04.03 Project Name: Port of Camas Washougal

Project Site Location OR ___ WA ○ Other ___

Invoice To: Christina Johnson P.O. No. ___

Collected By:
Signature:
Printed: Christina Johnson

Signature: ___
Printed: ___

Turn Around Time
☒ Normal 5-7 Business Days
☐ Rush ___
Specify
**Rush Analyses Must Be Scheduled With The Lab In Advance**

**For Laboratory Use**
Lab Job No. 1109062
Shipped Via: Client
Air Bill No. ___
Temperature On Receipt ___ °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: NWTPH-HCID | NWTPH-Dx | GRX | Metals (PCRA & RCRA) | (8260 B) VOCs | PAHs (8270 SIM) | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/7/11 | 8:10 | SS-5-1 | S | 1 | | X | | X | | | | |
| 9/7/11 | 8:25 | SS-6-1 | | | | X | | X | | | | |
| | 8:30 | SS-8-1 | | | | X | | X | X | | | |
| | 8:45 | SS-7-1 | | | | X | | X | | | | |
| | 9:00 | SS-3-1 | | | | X | | X | X | | | |
| | 8:50 | SS-4-1 | | | | X | | X | | | | Missing |
| | 14:15 | TP-9-2 | | 5 | | X | X | X | | X | SOSS | |
| | 14:40 | TP-9-7 | | | | X | X | X | | X | | |
| | 13:25 | TP-10-2 | | | | X | X | X | | X | | |
| | 13:45 | TP-10-7 | | | | X | X | X | | X | | |
| | 14:50 | TP-11-2 | | | | X | X | X | | X | | |
| | 15:00 | TP-11-7 | | | | X | X | X | | X | | |

| Relinquished By: | Date | Time | Received By: | Relinquished By: | Date | Time |
|---|---|---|---|---|---|---|
| Company: MFA | 9/8/11 | 15:15 | Company: | Company: | | |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Received For Lab By: Nikki Boppes — Date: 9/8/11 — Time: 1515

Copies: White-Original Yellow-Project File Pink-Customer Copy

# CHAIN OF CUSTODY RECORD

Page 2 of ___


**Specialty Analytical**
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336


Contact Person/Project Manager: Christina Johnson
Company: MFA
Address: 7223 NE Hazel Dell Suite B
Phone: 360.433.0279 Fax: ___
Project No.: 0229.04.03 Project Name: Port of Camas Wash.
Project Site Location OR: ___ WA: X Other: ___
Invoice To: ___ P.O. No.: ___

Collected By: [signature]
Signature: [signature]
Printed: Christina Johnson

Signature: ___
Printed: ___

Turn Around Time
- ☒ Normal 5-7 Business Days
- ☐ Rush ___
  Specify

**Rush Analyses Must Be Scheduled With The Lab In Advance**

**For Laboratory Use**
Lab Job No.: 1109062
Shipped Via: Client
Air Bill No.: —
Temperature On Receipt ___ °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: NWTPH-HCID | " " GX | " " BTEX | PCBs (8082) | PAHs (8270SIM) | VOC 8260B | RCRA 8 (to meet WTCA A) | | | | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/8/11 | 9:00 | SP-1 | S | 5 | X | | X | X | X | | X | | | | 5035 | |
| | 9:30 | SP-2 | S | 5 | X | | X | X | X | | X | | | | 5035 | |
| | 10:30 | SP-3 | S | 5 | X | | X | X | X | | X | | | | 5035 | |
| | 11:40 | SS-21-0.5 | S | 1 | | X | X | X | X | X | X | | | | | |
| | 12:00 | SS-22-1 | S | 1 | | X | X | X | X | X | X | | | | | |
| | 12:15 | SS-23-1 | S | 1 | | X | X | X | X | X | X | | | | | |
| | 12:30 | SS-24-1 | S | 1 | | X | X | X | X | X | X | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

| Relinquished By: | Date | Time | Received By: | Relinquished By: | Date | Time |
|---|---|---|---|---|---|---|
| Company: MFA | 9/8 | ~~14:45~~ | Company: | Company: | | |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Received For Lab By: Nikki Bupper — Date: 9/8/11 — Time: 1515

Copies: White-Original Yellow-Project File Pink-Customer Copy

# CHAIN OF CUSTODY RECORD

Page 3 of ___


**Specialty Analytical**
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336


Contact Person/Project Manager: Christina Johnson
Company: MFA
Address: 7323 NE Hazel Dell Suite F
Phone: 360-433-0249 Fax: —
Project No.: 0229.04.03 Project Name: Port of Camas Wash
Project Site Location OR ___ WA X Other ___
Invoice To ___ P.O. No. ___

Collected By:
Signature:
Printed: Christina Johnson

Signature ___
Printed ___

Turn Around Time
☑ Normal 5-7 Business Days
☐ Rush ___
Specify
**Rush Analyses Must Be Scheduled With The Lab In Advance**

**For Laboratory Use**
Lab Job No. 1109062
Shipped Via ESS Client
Air Bill No. ___
Temperature On Receipt ___ °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: HOLD | GRO | DX PCBs | PAH (8270SIM) | VOCs (8260B) | RCRA 8 (+ mercury) | | | | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/7 | 9:20 | SS-10-1 | S | 1 | | | X | | | X | | | | | |
| | 9:30 | SS-11-2 | | 1 | | | X | | | X | | | | | |
| | 9:45 | SS-12-1 | | 1 | | | X | | | X | | | | | |
| | 9:55 | SS-13-1 | | 1 | | | X | | | X | | | | | |
| | 13:05 | SS-14-2 | | 5 | X | X | | | | | | | | HOLD | |
| | 13:00 | SS-14-1 | | 5 | X | X | X | | | X | | | | | |
| | 10:15 | SS-15-1 | | 1 | | | X | | | | | | | | |
| | 10:40 | SS-16-1 | | 1 | | | X | X | | X | | | | | |
| | 10:45 | SS-17-1 | | 1 | | | X | | | | | | | | |
| | 10:55 | SS-17-2 | | | | | | | | | | | | HOLD | |
| | 11:05 | SS-18-1 | | 1 | | | X | | | | | | | | |
| | 11:18 | SS-18-2 | | | | | | | | | | | | HOLD | |

| Relinquished By: | Date | Time | Received By: | Relinquished By: | Date | Time |
|---|---|---|---|---|---|---|
| Company: MFA | 9/8/11 | 15:15 | Company: | Company: | | |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Received For Lab By: Nikki Boppes — Date: 9/8/11 — Time: 1515

Copies: White-Original Yellow-Project File Pink-Customer Copy

# CHAIN OF CUSTODY RECORD

Page 4 of ___


## Specialty Analytical
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336


Contact Person/Project Manager: Christina Johnson
Company: MFA
Address: 7223 NE Hazel Dell suite B
Vancouver, WA
Phone: 360.433.0249 Fax: —
Project No. 0229.04.03 Project Name: Part of Camas Wash
Project Site Location OR ___ WA X Other ___
Invoice To: Christina Johnson P.O. No. ___

Collected By: [signature]
Signature ___
Printed: Christina Johnson

Signature ___
Printed ___

Turn Around Time
☐ Normal 5-7 Business Days
☐ Rush ___
Specify
**Rush Analyses Must Be Scheduled With The Lab In Advance**

**For Laboratory Use**
Lab Job No. 1109062
Shipped Via: Client
Air Bill No. —
Temperature On Receipt ___ °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: HCl D | GX | DX | PUBs (8082) | PAHs (8270 SIM) | VOCs (8260 B) | PCBA 2 (+ meet MTCA A) | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/7 | 11:25 | SS-19-1 | S | 1 | | | X | | | | | | |
| 9/7 | 11:20 | SS-19-2 | S | 1 | | HOLD | | | ~ | | | HOLD | |
| | 12:40 | SS-20-1 | S | 1 | | | X | | | | X | | |
| | 12:45 | SS-20-2 | S | 1 | 1-HOLD | | | | ~ | | | HOLD | |
| ~~9/7~~ 9/7 | 9:05 | SS-9-1 | S | 1 | | | X | | | | X | | |

| Relinquished By: | Date | Time | Received By: | Relinquished By: | Date | Time |
|---|---|---|---|---|---|---|
| Company: MFA | 9/8/11 | 15:15 | Company: | Company: | | |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Received For Lab By: Nikki Bippes — Date 9/8/11 — Time 1515

Copies: White-Original Yellow-Project File Pink-Customer Copy

# Specialty Analytical

11711 SE Capps Road
Clackamas, OR 97015
(503) 607-1331
Fax (503) 607-1336


September 22, 2011

Christina Johnson
Maul, Foster & Alongi
7223 NE Hazel Dell Avenue
Suite B
Vancouver, WA 98665

TEL: (360) 694-2691
FAX: (360) 906-1958

RE: Port of Camas, Washougal/0229.04.03

Order No.: 1109122

Dear Christina Johnson:

Specialty Analytical received 1 sample on 9/16/2011 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Cindy Hillyard
Project Manager

Technical Review

# Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | Open Pit 1-S-20.5 |
| **Lab Order:** | 1109122 | **Collection Date:** | 9/15/2011 1:05:00 PM |
| **Project:** | Port of Camas, Washougal/0229.04.03 | | |
| **Lab ID:** | 1109122-01 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **zau** |
| Arsenic | 4.31 | 2.36 | | mg/Kg-dry | 1 | 9/21/2011 12:04:40 PM |
| Barium | 213 | 1.18 | | mg/Kg-dry | 1 | 9/21/2011 12:04:40 PM |
| Cadmium | ND | 0.118 | | mg/Kg-dry | 1 | 9/21/2011 12:04:40 PM |
| Chromium | 16.1 | 0.590 | | mg/Kg-dry | 1 | 9/21/2011 12:04:40 PM |
| Lead | 7.86 | 2.36 | | mg/Kg-dry | 1 | 9/21/2011 12:04:40 PM |
| Selenium | ND | 2.36 | | mg/Kg-dry | 1 | 9/21/2011 12:04:40 PM |
| Silver | 6.18 | 2.36 | | mg/Kg-dry | 1 | 9/21/2011 12:04:40 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.0300 | 0.0188 | | mg/Kg-dry | 1 | 9/21/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | 11.0 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| 2-Methylnaphthalene | 14.4 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Acenaphthene | ND | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Acenaphthylene | 9.34 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Anthracene | 9.34 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Benz(a)anthracene | 24.6 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Benzo(a)pyrene | 34.8 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Benzo(b)fluoranthene | 48.4 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Benzo(g,h,i)perylene | 59.4 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Benzo(k)fluoranthene | 21.2 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Chrysene | 26.3 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Dibenz(a,h)anthracene | 17.0 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Fluoranthene | 22.1 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Fluorene | ND | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Indeno(1,2,3-cd)pyrene | 34.0 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Naphthalene | 13.6 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Phenanthrene | 10.2 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Pyrene | 22.1 | 8.50 | | µg/Kg-dry | 1 | 9/19/2011 7:56:00 PM |
| Surr: 2-Fluorobiphenyl | 78.8 | 42.6-128 | | %REC | 1 | 9/19/2011 7:56:00 PM |
| Surr: Nitrobenzene-d5 | 97.8 | 21.7-155 | | %REC | 1 | 9/19/2011 7:56:00 PM |
| Surr: p-Terphenyl-d14 | 80.6 | 44.9-155 | | %REC | 1 | 9/19/2011 7:56:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **das** |
| Aroclor 1016 | ND | 0.424 | | µg/Kg-dry | 1 | 9/19/2011 |
| Aroclor 1221 | ND | 0.424 | | µg/Kg-dry | 1 | 9/19/2011 |
| Aroclor 1232 | ND | 0.424 | | µg/Kg-dry | 1 | 9/19/2011 |
| Aroclor 1242 | ND | 0.424 | | µg/Kg-dry | 1 | 9/19/2011 |
| Aroclor 1248 | ND | 0.424 | | µg/Kg-dry | 1 | 9/19/2011 |
| Aroclor 1254 | ND | 0.424 | | µg/Kg-dry | 1 | 9/19/2011 |
| Aroclor 1260 | 20.2 | 0.424 | | µg/Kg-dry | 1 | 9/19/2011 |

## Specialty Analytical

**Date:** *22-Sep-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | Open Pit 1-S-20.5 |
| **Lab Order:** | 1109122 | **Collection Date:** | 9/15/2011 1:05:00 PM |
| **Project:** | Port of Camas, Washougal/0229.04.03 | | |
| **Lab ID:** | 1109122-01 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **das** |
| Aroclor 1262 | ND | 0.424 | | µg/Kg-dry | 1 | 9/19/2011 |
| Aroclor 1268 | ND | 0.424 | | µg/Kg-dry | 1 | 9/19/2011 |
| Surr: Decachlorobiphenyl | 64.9 | 56.5-130 | | %REC | 1 | 9/19/2011 |

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109122
**Project:** Port of Camas, Washougal/0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **MBLK-29474** SampType: **MBLK** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **9/20/2011** Run ID: **TJA IRIS_110921A**
Client ID: **ZZZZZ** Batch ID: **29474** TestNo: **E6010** Analysis Date: **9/21/2011** SeqNo: **778348**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 2.00 | | | | | | | | | |
| Barium | ND | 1.00 | | | | | | | | | |
| Cadmium | ND | 0.100 | | | | | | | | | |
| Chromium | ND | 0.500 | | | | | | | | | |
| Gold | 0.78 | 5.00 | | | | | | | | | J |
| Lead | ND | 2.00 | | | | | | | | | |
| Selenium | ND | 2.00 | | | | | | | | | |
| Silver | ND | 2.00 | | | | | | | | | |
| Tin | 3.5 | 5.00 | | | | | | | | | J |

Sample ID: **LCS-29474** SampType: **LCS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **9/20/2011** Run ID: **TJA IRIS_110921A**
Client ID: **ZZZZZ** Batch ID: **29474** TestNo: **E6010** Analysis Date: **9/21/2011** SeqNo: **778349**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 95.85 | 2.00 | 100 | 0 | 95.8 | 85.1 | 107 | 0 | 0 | | |
| Barium | 49.86 | 1.00 | 50 | 0 | 99.7 | 85.7 | 110 | 0 | 0 | | |
| Cadmium | 4.89 | 0.100 | 5 | 0 | 97.8 | 87.2 | 109 | 0 | 0 | | |
| Chromium | 25.22 | 0.500 | 25 | 0 | 101 | 84 | 113 | 0 | 0 | | |
| Gold | 244.5 | 5.00 | 250 | 0 | 97.8 | 80 | 120 | 0 | 0 | | |
| Lead | 100.4 | 2.00 | 100 | 0 | 100 | 84.9 | 109 | 0 | 0 | | |
| Selenium | 95.41 | 2.00 | 100 | 0 | 95.4 | 88.7 | 111 | 0 | 0 | | |
| Silver | 50.07 | 2.00 | 50 | 0 | 100 | 79.3 | 109 | 0 | 0 | | |
| Tin | 52.18 | 5.00 | 50 | 0 | 104 | 83.9 | 114 | 0 | 0 | | |

Sample ID: **1109130-02AMS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **9/20/2011** Run ID: **TJA IRIS_110921A**
Client ID: **ZZZZZ** Batch ID: **29474** TestNo: **E6010** Analysis Date: **9/21/2011** SeqNo: **778352**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 68.89 | 1.52 | 75.76 | 0 | 90.9 | 86.1 | 109 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109122
**Project:** Port of Camas, Washougal/0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **1109130-02AMS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **9/20/2011** Run ID: **TJA IRIS_110921A**
Client ID: **ZZZZZ** Batch ID: **29474** TestNo: **E6010** Analysis Date: **9/21/2011** SeqNo: **778352**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Barium | 130.5 | 0.758 | 37.88 | 172.4 | -111 | 75 | 125 | 0 | 0 | | S |
| Cadmium | 3.583 | 0.0758 | 3.788 | 0 | 94.6 | 86.4 | 113 | 0 | 0 | | |
| Chromium | 31.48 | 0.379 | 18.94 | 18.76 | 67.1 | 75 | 121 | 0 | 0 | | S, RP |
| Gold | 171 | 3.79 | 189.4 | 0 | 90.3 | 75 | 125 | 0 | 0 | | |
| Lead | 82.95 | 1.52 | 75.76 | 48.72 | 45.2 | 84.9 | 109 | 0 | 0 | | S, RP |
| Selenium | 66.06 | 1.52 | 75.76 | 0 | 87.2 | 77.7 | 116 | 0 | 0 | | |
| Silver | 38.29 | 1.52 | 37.88 | 1.971 | 95.9 | 75 | 123 | 0 | 0 | | |
| Tin | 36.98 | 3.79 | 37.88 | 4.486 | 85.8 | 75 | 125 | 0 | 0 | | |

Sample ID: **1109130-02AMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **9/20/2011** Run ID: **TJA IRIS_110921A**
Client ID: **ZZZZZ** Batch ID: **29474** TestNo: **E6010** Analysis Date: **9/21/2011** SeqNo: **778353**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 68.98 | 1.54 | 76.92 | 0 | 89.7 | 86.1 | 109 | 68.89 | 0.143 | 20 | |
| Barium | 121.7 | 0.769 | 38.46 | 172.4 | -132 | 75 | 125 | 130.5 | 6.95 | 20 | S |
| Cadmium | 3.569 | 0.0769 | 3.846 | 0 | 92.8 | 86.4 | 113 | 3.583 | 0.394 | 20 | |
| Chromium | 38.15 | 0.385 | 19.23 | 18.76 | 101 | 75 | 121 | 31.48 | 19.2 | 20 | |
| Gold | 171.2 | 3.85 | 192.3 | 0 | 89 | 75 | 125 | 171 | 0.144 | 20 | |
| Lead | 127.6 | 1.54 | 76.92 | 48.72 | 103 | 84.9 | 109 | 82.95 | 42.4 | 20 | R |
| Selenium | 66.15 | 1.54 | 76.92 | 0 | 86 | 77.7 | 116 | 66.06 | 0.129 | 20 | |
| Silver | 37.91 | 1.54 | 38.46 | 1.971 | 93.4 | 75 | 123 | 38.29 | 0.998 | 20 | |
| Tin | 45.65 | 3.85 | 38.46 | 4.486 | 107 | 75 | 125 | 36.98 | 21.0 | 20 | R |

Sample ID: **1109130-02ADUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **9/20/2011** Run ID: **TJA IRIS_110921A**
Client ID: **ZZZZZ** Batch ID: **29474** TestNo: **E6010** Analysis Date: **9/21/2011** SeqNo: **778351**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 1.49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Barium | 78.58 | 0.746 | 0 | 0 | 0 | 0 | 0 | 172.4 | 74.8 | 20 | R |
| Cadmium | 0.04478 | 0.0746 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | J |
| Chromium | 17.67 | 0.373 | 0 | 0 | 0 | 0 | 0 | 18.76 | 5.98 | 20 | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109122
**Project:** Port of Camas, Washougal/0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **1109130-02ADUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **9/20/2011** Run ID: **TJA IRIS_110921A**
Client ID: **ZZZZZ** Batch ID: **29474** TestNo: **E6010** Analysis Date: **9/21/2011** SeqNo: **778351**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gold | ND | 3.73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Lead | 41.81 | 1.49 | 0 | 0 | 0 | 0 | 0 | 48.72 | 15.3 | 20 | |
| Selenium | ND | 1.49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Silver | 1.925 | 1.49 | 0 | 0 | 0 | 0 | 0 | 1.971 | 2.34 | 20 | |
| Tin | 2.754 | 3.73 | 0 | 0 | 0 | 0 | 0 | 4.486 | 0 | 20 | J |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110921A**
Client ID: **ZZZZZ** Batch ID: **29474** TestNo: **E6010** Analysis Date: **9/21/2011** SeqNo: **778358**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.41 | 2.00 | 100 | 0 | 96.4 | 90 | 110 | 0 | 0 | | |
| Barium | 48.75 | 1.00 | 50 | 0 | 97.5 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.84 | 0.100 | 5 | 0 | 96.8 | 90 | 110 | 0 | 0 | | |
| Chromium | 23.86 | 0.500 | 25 | 0 | 95.4 | 90 | 110 | 0 | 0 | | |
| Gold | 244.1 | 5.00 | 250 | 0 | 97.6 | 90 | 110 | 0 | 0 | | |
| Lead | 97.35 | 2.00 | 100 | 0 | 97.4 | 90 | 110 | 0 | 0 | | |
| Selenium | 93.19 | 2.00 | 100 | 0 | 93.2 | 90 | 110 | 0 | 0 | | |
| Silver | 49.64 | 2.00 | 50 | 0 | 99.3 | 90 | 110 | 0 | 0 | | |
| Tin | 48.86 | 5.00 | 50 | 0 | 97.7 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110921A**
Client ID: **ZZZZZ** Batch ID: **29474** TestNo: **E6010** Analysis Date: **9/21/2011** SeqNo: **778362**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.29 | 2.00 | 100 | 0 | 96.3 | 90 | 110 | 0 | 0 | | |
| Barium | 48.2 | 1.00 | 50 | 0 | 96.4 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.8 | 0.100 | 5 | 0 | 96 | 90 | 110 | 0 | 0 | | |
| Chromium | 24.88 | 0.500 | 25 | 0 | 99.5 | 90 | 110 | 0 | 0 | | |
| Gold | 243.1 | 5.00 | 250 | 0 | 97.2 | 90 | 110 | 0 | 0 | | |
| Lead | 96.77 | 2.00 | 100 | 0 | 96.8 | 90 | 110 | 0 | 0 | | |
| Selenium | 93.28 | 2.00 | 100 | 0 | 93.3 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109122
**Project:** Port of Camas, Washougal/0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110921A**
Client ID: **ZZZZZ** Batch ID: **29474** TestNo: **E6010** Analysis Date: **9/21/2011** SeqNo: **778362**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 50.68 | 2.00 | 50 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Tin | 48.43 | 5.00 | 50 | 0 | 96.9 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110921A**
Client ID: **ZZZZZ** Batch ID: **29474** TestNo: **E6010** Analysis Date: **9/21/2011** SeqNo: **778625**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gold | 241.6 | 500 | 250 | 0 | 96.6 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110921A**
Client ID: **ZZZZZ** Batch ID: **29474** TestNo: **E6010** Analysis Date: **9/21/2011** SeqNo: **778628**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gold | 255.5 | 500 | 250 | 0 | 102 | 90 | 110 | 0 | 0 | | |

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110921A**
Client ID: **ZZZZZ** Batch ID: **29474** TestNo: **E6010** Analysis Date: **9/21/2011** SeqNo: **778347**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 98.87 | 2.00 | 100 | 0 | 98.9 | 90 | 110 | 0 | 0 | | |
| Barium | 48.5 | 1.00 | 50 | 0 | 97 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.8 | 0.100 | 5 | 0 | 96 | 90 | 110 | 0 | 0 | | |
| Chromium | 24.44 | 0.500 | 25 | 0 | 97.8 | 90 | 110 | 0 | 0 | | |
| Gold | 242.6 | 5.00 | 250 | 0 | 97 | 90 | 110 | 0 | 0 | | |
| Lead | 98.94 | 2.00 | 100 | 0 | 98.9 | 90 | 110 | 0 | 0 | | |
| Selenium | 94.26 | 2.00 | 100 | 0 | 94.3 | 90 | 110 | 0 | 0 | | |
| Silver | 51.42 | 2.00 | 50 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Tin | 48.66 | 5.00 | 50 | 0 | 97.3 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109122
**Project:** Port of Camas, Washougal/0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_110921A**
Client ID: **ZZZZZ** Batch ID: **29474** TestNo: **E6010** Analysis Date: **9/21/2011** SeqNo: **778624**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gold | 253 | 500 | 250 | 0 | 101 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109122
**Project:** Port of Camas, Washougal/0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **MB-2945662** | SampType: **MBLK** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **9/19/2011** | Run ID: **GCK_110919A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29456** | TestNo: **SW8082** | | Analysis Date: **9/19/2011** | SeqNo: **777863** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016 | ND | 0.333 | | | | | | | | | |
| Aroclor 1221 | ND | 0.333 | | | | | | | | | |
| Aroclor 1232 | ND | 0.333 | | | | | | | | | |
| Aroclor 1242 | ND | 0.333 | | | | | | | | | |
| Aroclor 1248 | ND | 0.333 | | | | | | | | | |
| Aroclor 1254 | ND | 0.333 | | | | | | | | | |
| Aroclor 1260 | ND | 0.333 | | | | | | | | | |
| Aroclor 1262 | ND | 0.333 | | | | | | | | | |
| Aroclor 1268 | ND | 0.333 | | | | | | | | | |
| Surr: Decachlorobiphenyl | 7493 | 0 | 6667 | 0 | 112 | 56.5 | 130 | 0 | 0 | | |

| Sample ID: **LCS-29456** | SampType: **LCS** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **9/19/2011** | Run ID: **GCK_110919A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29456** | TestNo: **SW8082** | | Analysis Date: **9/19/2011** | SeqNo: **777862** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 49.87 | 0.333 | 66.67 | 0 | 74.8 | 44.3 | 137 | 0 | 0 | | |

| Sample ID: **1109122-01AMS** | SampType: **MS** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **9/16/2011** | Run ID: **GCK_110919A** |
|---|---|---|---|---|---|
| Client ID: **Open Pit 1-S-20.5** | Batch ID: **29456** | TestNo: **SW8082** | | Analysis Date: **9/19/2011** | SeqNo: **777864** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 27.26 | 0.424 | 84.93 | 0 | 32.1 | 56.6 | 123 | 0 | 0 | | S,MI |

| Sample ID: **1109122-01AMSD** | SampType: **MSD** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **9/16/2011** | Run ID: **GCK_110919A** |
|---|---|---|---|---|---|
| Client ID: **Open Pit 1-S-20.5** | Batch ID: **29456** | TestNo: **SW8082** | | Analysis Date: **9/19/2011** | SeqNo: **777865** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 83.14 | 0.424 | 84.93 | 0 | 97.9 | 56.6 | 123 | 27.26 | 101 | 20 | R,MI |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109122
**Project:** Port of Camas, Washougal/0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **CCB-29456** | SampType: **CCB** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **9/19/2011** | Run ID: **GCK_110919A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29456** | TestNo: **SW8082** | | Analysis Date: **9/19/2011** | SeqNo: **778023** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1260 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_110919A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29456** | TestNo: **SW8082** | | Analysis Date: **9/19/2011** | SeqNo: **777861** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 71 | 0.333 | 66.67 | 0 | 107 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_110919A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29456** | TestNo: **SW8082** | | Analysis Date: **9/19/2011** | SeqNo: **777870** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 60.73 | 0.333 | 66.67 | 0 | 91.1 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 66.93 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_110919A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29456** | TestNo: **SW8082** | | Analysis Date: **9/19/2011** | SeqNo: **778022** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109122
**Project:** Port of Camas, Washougal/0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **MB-29488** | SampType: **MBLK** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/21/2011** | Run ID: **CVAA_110921A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29488** | TestNo: **SW7471** | | Analysis Date: **9/21/2011** | SeqNo: **778383** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.0167 | | | | | | | | | |

| Sample ID: **LCS-29488** | SampType: **LCS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/21/2011** | Run ID: **CVAA_110921A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29488** | TestNo: **SW7471** | | Analysis Date: **9/21/2011** | SeqNo: **778382** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2512 | 0.0167 | 0.25 | 0 | 100 | 88.2 | 113 | 0 | 0 | | |

| Sample ID: **1109130-02AMS** | SampType: **MS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/21/2011** | Run ID: **CVAA_110921A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29488** | TestNo: **SW7471** | | Analysis Date: **9/21/2011** | SeqNo: **778379** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.4388 | 0.0157 | 0.2344 | 0.5262 | -37.3 | 78.1 | 125 | 0 | 0 | | S,MI |

| Sample ID: **1109130-02AMSD** | SampType: **MSD** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/21/2011** | Run ID: **CVAA_110921A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29488** | TestNo: **SW7471** | | Analysis Date: **9/21/2011** | SeqNo: **778380** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.8008 | 0.0167 | 0.25 | 0.5262 | 110 | 78.1 | 125 | 0.4388 | 58.4 | 20 | R,MI |

| Sample ID: **1109130-02ADUP** | SampType: **DUP** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **9/21/2011** | Run ID: **CVAA_110921A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29488** | TestNo: **SW7471** | | Analysis Date: **9/21/2011** | SeqNo: **778378** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.4332 | 0.0139 | 0 | 0 | 0 | 0 | 0 | 0.5262 | 19.4 | 20 | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_110921A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29488** | TestNo: **SW7471** | | Analysis Date: **9/21/2011** | SeqNo: **778384** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109122
**Project:** Port of Camas, Washougal/0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

Sample ID: **CCV** SampType: **CCV** TestCode: **HG_CTS** Units: **mg/Kg** Prep Date: Run ID: **CVAA_110921A**
Client ID: **ZZZZZ** Batch ID: **29488** TestNo: **SW7471** Analysis Date: **9/21/2011** SeqNo: **778384**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2587 | 0.0167 | 0.25 | 0 | 103 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109122
**Project:** Port of Camas, Washougal/0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **MB-29448** | SampType: **MBLK** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **9/16/2011** | Run ID: **5975Q_110919A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29448** | TestNo: **8270SIM** | | Analysis Date: **9/19/2011** | SeqNo: **777665** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ND | 6.67 | | | | | | | | | |
| 2-Methylnaphthalene | ND | 6.67 | | | | | | | | | |
| Acenaphthene | ND | 6.67 | | | | | | | | | |
| Acenaphthylene | ND | 6.67 | | | | | | | | | |
| Anthracene | 0.6667 | 6.67 | | | | | | | | | J |
| Benz(a)anthracene | 3.333 | 6.67 | | | | | | | | | J |
| Benzo(a)pyrene | 2.667 | 6.67 | | | | | | | | | J |
| Benzo(b)fluoranthene | 3.333 | 6.67 | | | | | | | | | J |
| Benzo(g,h,i)perylene | 3.333 | 6.67 | | | | | | | | | J |
| Benzo(k)fluoranthene | 2.667 | 6.67 | | | | | | | | | J |
| Chrysene | 2.667 | 6.67 | | | | | | | | | J |
| Dibenz(a,h)anthracene | 4.667 | 6.67 | | | | | | | | | J |
| Fluoranthene | 2.667 | 6.67 | | | | | | | | | J |
| Fluorene | ND | 6.67 | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | 4 | 6.67 | | | | | | | | | J |
| Naphthalene | 2 | 6.67 | | | | | | | | | J |
| Phenanthrene | 2 | 6.67 | | | | | | | | | J |
| Pyrene | 3.333 | 6.67 | | | | | | | | | J |
| Surr: 2-Fluorobiphenyl | 4296 | 0 | 6667 | 0 | 64.4 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 6031 | 0 | 6667 | 0 | 90.5 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 7745 | 0 | 6667 | 0 | 116 | 44.9 | 155 | 0 | 0 | | |

| Sample ID: **LCS-29448** | SampType: **LCS** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **9/16/2011** | Run ID: **5975Q_110919A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29448** | TestNo: **8270SIM** | | Analysis Date: **9/19/2011** | SeqNo: **777832** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 270.7 | 6.67 | 333.3 | 0 | 81.2 | 39.6 | 107 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 313.3 | 6.67 | 333.3 | 0 | 94 | 49.7 | 135 | 0 | 0 | | |
| Chrysene | 316.7 | 6.67 | 333.3 | 0 | 95 | 57.1 | 130 | 0 | 0 | | |
| Naphthalene | 253.3 | 6.67 | 333.3 | 0 | 76 | 29.1 | 109 | 0 | 0 | | |
| Phenanthrene | 322.7 | 6.67 | 333.3 | 0 | 96.8 | 48.4 | 115 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109122
**Project:** Port of Camas, Washougal/0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **LCS-29448** | SampType: **LCS** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **9/16/2011** | Run ID: **5975Q_110919A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29448** | TestNo: **8270SIM** | | Analysis Date: **9/19/2011** | SeqNo: **777832** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pyrene | 301.3 | 6.67 | 333.3 | 0 | 90.4 | 47.2 | 134 | 0 | 0 | | |

| Sample ID: **1109110-05AMS** | SampType: **MS** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **9/16/2011** | Run ID: **5975Q_110919A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29448** | TestNo: **8270SIM** | | Analysis Date: **9/19/2011** | SeqNo: **777833** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 216 | 6.67 | 333.3 | 2 | 64.2 | 33.7 | 111 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 313.3 | 6.67 | 333.3 | 69.33 | 73.2 | 15 | 128 | 0 | 0 | | |
| Chrysene | 338 | 6.67 | 333.3 | 63.33 | 82.4 | 37.5 | 125 | 0 | 0 | | |
| Naphthalene | 198 | 6.67 | 333.3 | 4.667 | 58 | 27.7 | 108 | 0 | 0 | | |
| Phenanthrene | 335.3 | 6.67 | 333.3 | 30 | 91.6 | 20.2 | 139 | 0 | 0 | | |
| Pyrene | 310 | 6.67 | 333.3 | 52 | 77.4 | 26.8 | 142 | 0 | 0 | | |

| Sample ID: **1109110-05AMSD** | SampType: **MSD** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **9/16/2011** | Run ID: **5975Q_110919A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29448** | TestNo: **8270SIM** | | Analysis Date: **9/19/2011** | SeqNo: **777834** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 202.7 | 6.67 | 333.3 | 2 | 60.2 | 33.7 | 111 | 216 | 6.37 | 20 | |
| Benzo(g,h,i)perylene | 284.7 | 6.67 | 333.3 | 69.33 | 64.6 | 15 | 128 | 313.3 | 9.59 | 20 | |
| Chrysene | 313.3 | 6.67 | 333.3 | 63.33 | 75 | 37.5 | 125 | 338 | 7.57 | 20 | |
| Naphthalene | 180 | 6.67 | 333.3 | 4.667 | 52.6 | 27.7 | 108 | 198 | 9.52 | 20 | |
| Phenanthrene | 308 | 6.67 | 333.3 | 30 | 83.4 | 20.2 | 139 | 335.3 | 8.50 | 20 | |
| Pyrene | 266 | 6.67 | 333.3 | 52 | 64.2 | 26.8 | 142 | 310 | 15.3 | 20 | |

| Sample ID: **CCV-29448** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5975Q_110919A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29448** | TestNo: **8270SIM** | | Analysis Date: **9/19/2011** | SeqNo: **777664** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 74 | 6.67 | 66.67 | 0 | 111 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 70.67 | 6.67 | 66.67 | 0 | 106 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 68.67 | 6.67 | 66.67 | 0 | 103 | 70 | 130 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1109122
**Project:** Port of Camas, Washougal/0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **CCV-29448** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_110919A**
Client ID: **ZZZZZ** Batch ID: **29448** TestNo: **8270SIM** Analysis Date: **9/19/2011** SeqNo: **777664**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthylene | 64.67 | 6.67 | 66.67 | 0 | 97 | 70 | 130 | 0 | 0 | | |
| Anthracene | 69.33 | 6.67 | 66.67 | 0 | 104 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 65.33 | 6.67 | 66.67 | 0 | 98 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 73.33 | 6.67 | 66.67 | 0 | 110 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 74 | 6.67 | 66.67 | 0 | 111 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 59.33 | 6.67 | 66.67 | 0 | 89 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 76 | 6.67 | 66.67 | 0 | 114 | 70 | 130 | 0 | 0 | | |
| Chrysene | 69.33 | 6.67 | 66.67 | 0 | 104 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 63.33 | 6.67 | 66.67 | 0 | 95 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 76 | 6.67 | 66.67 | 0 | 114 | 70 | 130 | 0 | 0 | | |
| Fluorene | 70.67 | 6.67 | 66.67 | 0 | 106 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 65.33 | 6.67 | 66.67 | 0 | 98 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 70.67 | 6.67 | 66.67 | 0 | 106 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 72 | 6.67 | 66.67 | 0 | 108 | 70 | 130 | 0 | 0 | | |
| Pyrene | 76 | 6.67 | 66.67 | 0 | 114 | 70 | 130 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

# KEY TO FLAGS

Rev. May 12, 2010

| | |
|---|---|
| A | This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards |
| A1 | This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards. |
| A2 | This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard. |
| A3 | The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type. |
| A4 | The product appears to be aged or degraded diesel. |
| B | The blank exhibited a positive result great than the reporting limit for this compound. |
| CN | See Case Narrative. |
| D | Result is based from a dilution. |
| E | Result exceeds the calibration range for this compound. The result should be considered as estimate. |
| F | The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library. |
| G | Result may be biased high due to biogenic interferences. Clean up is recommended. |
| H | Sample was analyzed outside recommended holding time. |
| HT | At clients request, samples was analyzed outside of recommended holding time. |
| J | The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration. |
| K | Diesel result is biased high due to amount of Oil contained in the sample. |
| L | Diesel result is biased high due to amount of Gasoline contained in the sample. |
| M | Oil result is biased high due to amount of Diesel contained in the sample. |
| MC | Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant. |
| MI | Result is outside control limits due to matrix interference. |
| MSA | Value determined by Method of Standard Addition. |
| O | Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements. |
| Q | Detection levels elevated due to sample matrix. |
| R | RPD control limits were exceeded. |
| RF | Duplicate failed due to result being at or near the method-reporting limit. |
| RP | Matrix spike values exceed established QC limits; post digestion spike is in control. |
| S | Recovery is outside control limits. |
| SC | Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements. |
| * | The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit. |

# CHAIN OF CUSTODY RECORD



**Specialty Analytical**
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336

Contact Person/Project Manager: Christina Johnson
Company: Maul Foster Alongi
Address: 2001 NW 19th Suite 200
Portland, OR, 97209
Phone (PW ~~503~~) 971-544-2139 Fax 971 544 2140
Project No. 0229.04.03 Project Name Port of Camas Washougal
Project Site Location OR ____ WA X Other ____
Invoice To MFA P.O. No. ____

Collected By:
Signature: [signature]
Printed: Philipp Wiesehar

Signature: ____
Printed: ____

Turn Around Time
☒ Normal 5-7 Business Days
☐ Rush ____
Specify
**Rush Analyses Must Be Scheduled With The Lab In Advance**

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: PCBs USEPA 8082 | Analyses: PAHs ~~8270~~ | Analyses: Metals 6000/7000 | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|
| 9-15-11 | 13:05 | Openpit1-S-20.5 | Soil | 1 | X | X | X | | |

**For Laboratory Use**
Lab Job No. 1109122
Shipped Via Specialty
Air Bill No. ____
Temperature On Receipt 6 °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Relinquished By | Date | Time | Received By | Relinquished By | Date | Time |
|---|---|---|---|---|---|---|
| Company: MFA | 9/16/11 | 1200 | Company: Specialty | Company: Specialty | 9/16/11 | 1418 |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Received For Lab By: [signature] Date 9/16/11 Time 14:18

Copies: White-Original Yellow-Project File Pink-Customer Copy

# Specialty Analytical

11711 SE Capps Road
Clackamas, OR 97015
(503) 607-1331
Fax (503) 607-1336


October 10, 2011

Christina Johnson
Maul, Foster & Alongi
7223 NE Hazel Dell Avenue
Suite B
Vancouver, WA 98665

TEL: (360) 694-2691
FAX: (360) 906-1958

RE: Port of Camas / 0229.04.03

Order No.: 1110043

Dear Christina Johnson:

Specialty Analytical received 2 samples on 9/7/2011 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Cindy Hillyard
Project Manager

Technical Review

# Specialty Analytical

**Date:** *10-Oct-11*

**CLIENT:** Maul, Foster & Alongi
**Project:** Port of Camas / 0229.04.03
**Lab Order:** 1110043

**Lab ID:** 1110043-01 **Collection Date:** 9/6/2011 11:15:00 AM
**Client Sample ID:** TP-4-3 **Matrix:** SOIL

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | 2.53 | 2.33 | | mg/Kg-dry | 1 | 10/6/2011 4:45:05 PM |
| Barium | 138 | 1.16 | | mg/Kg-dry | 1 | 10/6/2011 4:45:05 PM |
| Cadmium | 0.198 | 0.116 | | mg/Kg-dry | 1 | 10/6/2011 4:45:05 PM |
| Chromium | 19.5 | 0.581 | | mg/Kg-dry | 1 | 10/6/2011 4:45:05 PM |
| Lead | 12.6 | 2.33 | | mg/Kg-dry | 1 | 10/6/2011 4:45:05 PM |
| Selenium | ND | 2.33 | | mg/Kg-dry | 1 | 10/6/2011 4:45:05 PM |
| Silver | ND | 2.33 | | mg/Kg-dry | 1 | 10/6/2011 4:45:05 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.0487 | 0.0202 | HT | mg/Kg-dry | 1 | 10/6/2011 |

**Lab ID:** 1110043-02 **Collection Date:** 9/6/2011 4:05:00 PM
**Client Sample ID:** SS-1-1.5 **Matrix:** SOIL

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| Acenaphthene | 9.24 | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Acenaphthylene | 12.6 | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Anthracene | 16.0 | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Benz(a)anthracene | 31.1 | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Benzo(a)pyrene | 45.3 | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Benzo(b)fluoranthene | 51.2 | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Benzo(g,h,i)perylene | 52.1 | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Benzo(k)fluoranthene | 22.7 | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Chrysene | 39.5 | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Dibenz(a,h)anthracene | ND | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Fluoranthene | 56.3 | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Fluorene | 9.24 | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Indeno(1,2,3-cd)pyrene | 41.1 | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Naphthalene | 26.0 | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Phenanthrene | 63.0 | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Pyrene | 51.2 | 8.40 | HT | µg/Kg-dry | 1 | 10/7/2011 11:07:00 AM |
| Surr: 2-Fluorobiphenyl | 78.9 | 42.6-128 | | %REC | 1 | 10/7/2011 11:07:00 AM |
| Surr: Nitrobenzene-d5 | 88.8 | 21.7-155 | | %REC | 1 | 10/7/2011 11:07:00 AM |
| Surr: p-Terphenyl-d14 | 70.5 | 44.9-155 | | %REC | 1 | 10/7/2011 11:07:00 AM |

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110043
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **MBLK-29631** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **10/6/2011** | Run ID: **TJA IRIS_111006B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29631** | TestNo: **E6010** | | Analysis Date: **10/6/2011** | SeqNo: **782674** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 2.00 | | | | | | | | | |
| Barium | ND | 1.00 | | | | | | | | | |
| Cadmium | ND | 0.100 | | | | | | | | | |
| Chromium | ND | 0.500 | | | | | | | | | |
| Lead | ND | 2.00 | | | | | | | | | |
| Selenium | ND | 2.00 | | | | | | | | | |
| Silver | ND | 2.00 | | | | | | | | | |

| Sample ID: **LCS-29631** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **10/6/2011** | Run ID: **TJA IRIS_111006B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29631** | TestNo: **E6010** | | Analysis Date: **10/6/2011** | SeqNo: **782675** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 92.16 | 2.00 | 100 | 0 | 92.2 | 85.1 | 107 | 0 | 0 | | |
| Barium | 48.85 | 1.00 | 50 | 0 | 97.7 | 85.7 | 110 | 0 | 0 | | |
| Cadmium | 4.72 | 0.100 | 5 | 0 | 94.4 | 87.2 | 109 | 0 | 0 | | |
| Chromium | 23.61 | 0.500 | 25 | 0 | 94.4 | 84 | 113 | 0 | 0 | | |
| Lead | 95.1 | 2.00 | 100 | 0 | 95.1 | 84.9 | 109 | 0 | 0 | | |
| Selenium | 93.25 | 2.00 | 100 | 0 | 93.2 | 88.7 | 111 | 0 | 0 | | |
| Silver | 39.21 | 2.00 | 50 | 0 | 78.4 | 79.3 | 109 | 0 | 0 | | S,O |

| Sample ID: **1109206-11CMS** | SampType: **MS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **10/6/2011** | Run ID: **TJA IRIS_111006B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29631** | TestNo: **E6010** | | Analysis Date: **10/6/2011** | SeqNo: **782678** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 82.23 | 1.85 | 92.59 | 1.404 | 87.3 | 86.1 | 109 | 0 | 0 | | |
| Barium | 116.4 | 0.926 | 46.3 | 64.88 | 111 | 75 | 125 | 0 | 0 | | |
| Cadmium | 4.083 | 0.0926 | 4.63 | 0 | 88.2 | 86.4 | 113 | 0 | 0 | | |
| Chromium | 36.24 | 0.463 | 23.15 | 15.69 | 88.8 | 75 | 121 | 0 | 0 | | |
| Lead | 80.31 | 1.85 | 92.59 | 0 | 86.7 | 84.9 | 109 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110043
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **1109206-11CMS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/6/2011** Run ID: **TJA IRIS_111006B**
Client ID: **ZZZZZ** Batch ID: **29631** TestNo: **E6010** Analysis Date: **10/6/2011** SeqNo: **782678**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Selenium | 78.77 | 1.85 | 92.59 | 0 | 85.1 | 77.7 | 116 | 0 | 0 | | |
| Silver | 37.96 | 1.85 | 46.3 | 1.76 | 78.2 | 75 | 123 | 0 | 0 | | |

Sample ID: **1109206-11CMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/6/2011** Run ID: **TJA IRIS_111006B**
Client ID: **ZZZZZ** Batch ID: **29631** TestNo: **E6010** Analysis Date: **10/6/2011** SeqNo: **782679**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 81.19 | 1.85 | 92.59 | 1.404 | 86.2 | 86.1 | 109 | 82.23 | 1.28 | 20 | |
| Barium | 116.9 | 0.926 | 46.3 | 64.88 | 112 | 75 | 125 | 116.4 | 0.397 | 20 | |
| Cadmium | 4.028 | 0.0926 | 4.63 | 0 | 87 | 86.4 | 113 | 4.083 | 1.37 | 20 | |
| Chromium | 36.61 | 0.463 | 23.15 | 15.69 | 90.4 | 75 | 121 | 36.24 | 1.02 | 20 | |
| Lead | 79.29 | 1.85 | 92.59 | 0 | 85.6 | 84.9 | 109 | 80.31 | 1.28 | 20 | |
| Selenium | 79.64 | 1.85 | 92.59 | 0 | 86 | 77.7 | 116 | 78.77 | 1.10 | 20 | |
| Silver | 37.68 | 1.85 | 46.3 | 1.76 | 77.6 | 75 | 123 | 37.96 | 0.759 | 20 | |

Sample ID: **1109206-11CDUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **10/6/2011** Run ID: **TJA IRIS_111006B**
Client ID: **ZZZZZ** Batch ID: **29631** TestNo: **E6010** Analysis Date: **10/6/2011** SeqNo: **782677**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 1.96 | 0 | 0 | 0 | 0 | 0 | 1.404 | 0 | 20 | |
| Barium | 67.08 | 0.980 | 0 | 0 | 0 | 0 | 0 | 64.88 | 3.34 | 20 | |
| Cadmium | ND | 0.0980 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Chromium | 13.21 | 0.490 | 0 | 0 | 0 | 0 | 0 | 15.69 | 17.2 | 20 | |
| Lead | ND | 1.96 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Selenium | ND | 1.96 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Silver | 1.559 | 1.96 | 0 | 0 | 0 | 0 | 0 | 1.76 | 0 | 20 | J |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_111006B**
Client ID: **ZZZZZ** Batch ID: **29631** TestNo: **E6010** Analysis Date: **10/6/2011** SeqNo: **782683**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110043
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_111006B**
Client ID: **ZZZZZ** Batch ID: **29631** TestNo: **E6010** Analysis Date: **10/6/2011** SeqNo: **782683**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 100.6 | 2.00 | 100 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Barium | 52.47 | 1.00 | 50 | 0 | 105 | 90 | 110 | 0 | 0 | | |
| Cadmium | 5.15 | 0.100 | 5 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.32 | 0.500 | 25 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Lead | 103.4 | 2.00 | 100 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Selenium | 101.9 | 2.00 | 100 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Silver | 47.95 | 2.00 | 50 | 0 | 95.9 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_111006B**
Client ID: **ZZZZZ** Batch ID: **29631** TestNo: **E6010** Analysis Date: **10/6/2011** SeqNo: **782693**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 102.8 | 2.00 | 100 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Barium | 52.43 | 1.00 | 50 | 0 | 105 | 90 | 110 | 0 | 0 | | |
| Cadmium | 5.18 | 0.100 | 5 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.65 | 0.500 | 25 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Lead | 104.1 | 2.00 | 100 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Selenium | 103.8 | 2.00 | 100 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Silver | 48.04 | 2.00 | 50 | 0 | 96.1 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_111006B**
Client ID: **ZZZZZ** Batch ID: **29631** TestNo: **E6010** Analysis Date: **10/6/2011** SeqNo: **782696**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 102.3 | 2.00 | 100 | 0 | 102 | 90 | 110 | 0 | 0 | | |

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_111006B**
Client ID: **ZZZZZ** Batch ID: **29631** TestNo: **E6010** Analysis Date: **10/6/2011** SeqNo: **782673**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 98.24 | 2.00 | 100 | 0 | 98.2 | 90 | 110 | 0 | 0 | | |

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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110043
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_111006B**
Client ID: **ZZZZZ** Batch ID: **29631** TestNo: **E6010** Analysis Date: **10/6/2011** SeqNo: **782673**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Barium | 51.66 | 1.00 | 50 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Cadmium | 5.1 | 0.100 | 5 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.79 | 0.500 | 25 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Lead | 103 | 2.00 | 100 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Selenium | 98.83 | 2.00 | 100 | 0 | 98.8 | 90 | 110 | 0 | 0 | | |
| Silver | 47.11 | 2.00 | 50 | 0 | 94.2 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110043
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **MB-29632** | SampType: **MBLK** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **10/6/2011** | Run ID: **CVAA_111006A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29632** | TestNo: **SW7471** | | Analysis Date: **10/6/2011** | SeqNo: **782329** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.0167 | | | | | | | | | |

| Sample ID: **LCS-29632** | SampType: **LCS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **10/6/2011** | Run ID: **CVAA_111006A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29632** | TestNo: **SW7471** | | Analysis Date: **10/6/2011** | SeqNo: **782328** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2541 | 0.0167 | 0.25 | 0 | 102 | 88.2 | 113 | 0 | 0 | | |

| Sample ID: **1110043-01AMS** | SampType: **MS** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **10/6/2011** | Run ID: **CVAA_111006A** |
|---|---|---|---|---|---|
| Client ID: **TP-4-3** | Batch ID: **29632** | TestNo: **SW7471** | | Analysis Date: **10/6/2011** | SeqNo: **782325** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.3186 | 0.0189 | 0.2834 | 0.04872 | 95.2 | 78.1 | 125 | 0 | 0 | | HT |

| Sample ID: **1110043-01AMSD** | SampType: **MSD** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **10/6/2011** | Run ID: **CVAA_111006A** |
|---|---|---|---|---|---|
| Client ID: **TP-4-3** | Batch ID: **29632** | TestNo: **SW7471** | | Analysis Date: **10/6/2011** | SeqNo: **782326** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.3394 | 0.0189 | 0.2834 | 0.04872 | 103 | 78.1 | 125 | 0.3186 | 6.32 | 20 | HT |

| Sample ID: **1110043-01ADUP** | SampType: **DUP** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **10/6/2011** | Run ID: **CVAA_111006A** |
|---|---|---|---|---|---|
| Client ID: **TP-4-3** | Batch ID: **29632** | TestNo: **SW7471** | | Analysis Date: **10/6/2011** | SeqNo: **782324** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.04256 | 0.0202 | 0 | 0 | 0 | 0 | 0 | 0.04872 | 13.5 | 20 | HT |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_111006A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29632** | TestNo: **SW7471** | | Analysis Date: **10/6/2011** | SeqNo: **782327** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110043
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

Sample ID: **CCV** SampType: **CCV** TestCode: **HG_CTS** Units: **mg/Kg** Prep Date: Run ID: **CVAA_111006A**
Client ID: **ZZZZZ** Batch ID: **29632** TestNo: **SW7471** Analysis Date: **10/6/2011** SeqNo: **782327**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.258 | 0.0167 | 0.25 | 0 | 103 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110043
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **MB-29637** SampType: **MBLK** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **10/6/2011** Run ID: **5975Q_111007A**
Client ID: **ZZZZZ** Batch ID: **29637** TestNo: **8270SIM** Analysis Date: **10/7/2011** SeqNo: **782861**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 6.67 | | | | | | | | | |
| Acenaphthylene | ND | 6.67 | | | | | | | | | |
| Anthracene | ND | 6.67 | | | | | | | | | |
| Benz(a)anthracene | 2 | 6.67 | | | | | | | | | J |
| Benzo(a)pyrene | 0.6667 | 6.67 | | | | | | | | | J |
| Benzo(b)fluoranthene | 1.333 | 6.67 | | | | | | | | | J |
| Benzo(g,h,i)perylene | ND | 6.67 | | | | | | | | | |
| Benzo(k)fluoranthene | 0.6667 | 6.67 | | | | | | | | | J |
| Chrysene | 2 | 6.67 | | | | | | | | | J |
| Dibenz(a,h)anthracene | 0.6667 | 6.67 | | | | | | | | | J |
| Fluoranthene | 1.333 | 6.67 | | | | | | | | | J |
| Fluorene | ND | 6.67 | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 6.67 | | | | | | | | | |
| Naphthalene | 2 | 6.67 | | | | | | | | | J |
| Phenanthrene | 0.6667 | 6.67 | | | | | | | | | J |
| Pyrene | 1.333 | 6.67 | | | | | | | | | J |
| Surr: 2-Fluorobiphenyl | 4309 | 0 | 6667 | 0 | 64.6 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 5830 | 0 | 6667 | 0 | 87.4 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 6182 | 0 | 6667 | 0 | 92.7 | 44.9 | 155 | 0 | 0 | | |

Sample ID: **LCS-29637** SampType: **LCS** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **10/6/2011** Run ID: **5975Q_111007A**
Client ID: **ZZZZZ** Batch ID: **29637** TestNo: **8270SIM** Analysis Date: **10/7/2011** SeqNo: **782863**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 236.7 | 6.67 | 333.3 | 0 | 71 | 39.6 | 107 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 284.7 | 6.67 | 333.3 | 0 | 85.4 | 49.7 | 135 | 0 | 0 | | |
| Chrysene | 278.7 | 6.67 | 333.3 | 0 | 83.6 | 57.1 | 130 | 0 | 0 | | |
| Naphthalene | 216 | 6.67 | 333.3 | 0 | 64.8 | 29.1 | 109 | 0 | 0 | | |
| Phenanthrene | 277.3 | 6.67 | 333.3 | 0 | 83.2 | 48.4 | 115 | 0 | 0 | | |
| Pyrene | 235.3 | 6.67 | 333.3 | 0 | 70.6 | 47.2 | 134 | 0 | 0 | | |

**Qualifiers:**
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110043
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **1110044-01AMS** SampType: **MS** TestCode: **PAHLL_S** Units: **µg/Kg-dry** Prep Date: **10/6/2011** Run ID: **5975Q_111007A**
Client ID: **ZZZZZ** Batch ID: **29637** TestNo: **8270SIM** Analysis Date: **10/7/2011** SeqNo: **783016**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 324.4 | 9.43 | 471.5 | 3.772 | 68 | 33.7 | 111 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 405.5 | 9.43 | 471.5 | 33.95 | 78.8 | 15 | 128 | 0 | 0 | | |
| Chrysene | 385.7 | 9.43 | 471.5 | 38.66 | 73.6 | 37.5 | 125 | 0 | 0 | | |
| Naphthalene | 334.7 | 9.43 | 471.5 | 4.715 | 70 | 27.7 | 108 | 0 | 0 | | |
| Phenanthrene | 374.4 | 9.43 | 471.5 | 54.69 | 67.8 | 20.2 | 139 | 0 | 0 | | |
| Pyrene | 298 | 9.43 | 471.5 | 50.92 | 52.4 | 26.8 | 142 | 0 | 0 | | |

Sample ID: **1110044-01AMSD** SampType: **MSD** TestCode: **PAHLL_S** Units: **µg/Kg-dry** Prep Date: **10/6/2011** Run ID: **5975Q_111007A**
Client ID: **ZZZZZ** Batch ID: **29637** TestNo: **8270SIM** Analysis Date: **10/7/2011** SeqNo: **783017**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 335.7 | 9.43 | 471.5 | 3.772 | 70.4 | 33.7 | 111 | 324.4 | 3.43 | 20 | |
| Benzo(g,h,i)perylene | 375.3 | 9.43 | 471.5 | 33.95 | 72.4 | 15 | 128 | 405.5 | 7.73 | 20 | |
| Chrysene | 350.8 | 9.43 | 471.5 | 38.66 | 66.2 | 37.5 | 125 | 385.7 | 9.48 | 20 | |
| Naphthalene | 324.4 | 9.43 | 471.5 | 4.715 | 67.8 | 27.7 | 108 | 334.7 | 3.15 | 20 | |
| Phenanthrene | 401.7 | 9.43 | 471.5 | 54.69 | 73.6 | 20.2 | 139 | 374.4 | 7.05 | 20 | |
| Pyrene | 251.8 | 9.43 | 471.5 | 50.92 | 42.6 | 26.8 | 142 | 298 | 16.8 | 20 | |

Sample ID: **CCV-29637** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_111007A**
Client ID: **ZZZZZ** Batch ID: **29637** TestNo: **8270SIM** Analysis Date: **10/7/2011** SeqNo: **782860**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 70.67 | 6.67 | 66.67 | 0 | 106 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 68.67 | 6.67 | 66.67 | 0 | 103 | 70 | 130 | 0 | 0 | | |
| Anthracene | 71.33 | 6.67 | 66.67 | 0 | 107 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 68 | 6.67 | 66.67 | 0 | 102 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 74 | 6.67 | 66.67 | 0 | 111 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 72 | 6.67 | 66.67 | 0 | 108 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 72.67 | 6.67 | 66.67 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 78.67 | 6.67 | 66.67 | 0 | 118 | 70 | 130 | 0 | 0 | | |
| Chrysene | 79.33 | 6.67 | 66.67 | 0 | 119 | 70 | 130 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110043
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **CCV-29637** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_111007A**
Client ID: **ZZZZZ** Batch ID: **29637** TestNo: **8270SIM** Analysis Date: **10/7/2011** SeqNo: **782860**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dibenz(a,h)anthracene | 77.33 | 6.67 | 66.67 | 0 | 116 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 79.33 | 6.67 | 66.67 | 0 | 119 | 70 | 130 | 0 | 0 | | |
| Fluorene | 76 | 6.67 | 66.67 | 0 | 114 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 79.33 | 6.67 | 66.67 | 0 | 119 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 71.33 | 6.67 | 66.67 | 0 | 107 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 78 | 6.67 | 66.67 | 0 | 117 | 70 | 130 | 0 | 0 | | |
| Pyrene | 64.67 | 6.67 | 66.67 | 0 | 97 | 70 | 130 | 0 | 0 | | |

**Qualifiers:**
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

# KEY TO FLAGS

Rev. May 12, 2010

| | |
|---|---|
| A | This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards |
| A1 | This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards. |
| A2 | This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard. |
| A3 | The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type. |
| A4 | The product appears to be aged or degraded diesel. |
| B | The blank exhibited a positive result great than the reporting limit for this compound. |
| CN | See Case Narrative. |
| D | Result is based from a dilution. |
| E | Result exceeds the calibration range for this compound. The result should be considered as estimate. |
| F | The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library. |
| G | Result may be biased high due to biogenic interferences. Clean up is recommended. |
| H | Sample was analyzed outside recommended holding time. |
| HT | At clients request, samples was analyzed outside of recommended holding time. |
| J | The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration. |
| K | Diesel result is biased high due to amount of Oil contained in the sample. |
| L | Diesel result is biased high due to amount of Gasoline contained in the sample. |
| M | Oil result is biased high due to amount of Diesel contained in the sample. |
| MC | Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant. |
| MI | Result is outside control limits due to matrix interference. |
| MSA | Value determined by Method of Standard Addition. |
| O | Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements. |
| Q | Detection levels elevated due to sample matrix. |
| R | RPD control limits were exceeded. |
| RF | Duplicate failed due to result being at or near the method-reporting limit. |
| RP | Matrix spike values exceed established QC limits; post digestion spike is in control. |
| S | Recovery is outside control limits. |
| SC | Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements. |
| * | The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit. |

# CHAIN OF CUSTODY RECORD

Page 1 of ___


## Specialty Analytical
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336


Contact Person/Project Manager Christina Johnson
Company MFA
Address 7223 NE Hazel Dell Ave
Vancouver, WA
Phone 360-433-0249 Fax —
Project No. 0229.04.05 Project Name Port of Camas
Project Site Location OR ___ WA X Other ___
Invoice To ___ P.O. No. ___

Collected By:
Signature
Printed Christina Johnson

Signature ___
Printed ___

Turn Around Time
☑ Normal 5-7 Business Days
☐ Rush ___
Specify
**Rush Analyses Must Be Scheduled With The Lab In Advance**

**For Laboratory Use**
Lab Job No. H09045 11100413
Shipped Via Specialty
Air Bill No. ___
Temperature On Receipt 4 °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: NWTPH-HCID | NWTPH-Gx | NWTPH-Dx | RCRA-8 (WA) | PCBs (8082) | PAHs (8270 SIM) | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/6/11 | 8:55 | TP-1-3 | S | 6 | X | | | | X | X | | |
| | 9:45 | TP-2-3.5 | S | 5 | X | | | | X | X | potential waste oil follow-up | |
| | 10:45 | TP-3-3 | S | 6 | X | | | | X | X | | |
| | 11:15 | TP-4-3 | S | 6 | X | | | ⊗ | X | X | | |
| | 13:15 | TP-5-8 | S | 6 | X | | | X | X | X | | |
| | 13:05 | TP-5-16.5 | S | 6 | | | | | | | | |
| | 15:00 | TP-6-8 | S | 6 | X | | | | X | X | | |
| | 15:30 | TP-7-2 | S | 1 | | 1 | X | X | | | please analyze applicable GRO/DRO if TPH detection | |
| | 15:45 | TP-8-1.5 | S | 1 | | | X | X | | | | |
| | 16:05 | SS-1-1.5 | S | 1 | | | X | X | | ⊗ | | |
| | 16:15 | SS-2-1.5 | S | 1 | | | X | X | | | | |
| | | | | | | | | | | | | |

| Relinquished By: | Company: | Date | Time | Received By: | Company: |
|---|---|---|---|---|---|
| | MFA | 9/6/11 | 15:30 | | Specialty |

| Relinquished By: | Company: | Date | Time | Received For Lab By: | Date | Time |
|---|---|---|---|---|---|---|
| | Specialty | 9/7/11 | 1410 | Nikki Rappes | 9/7/11 | 1410 |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Copies: White-Original Yellow-Project File Pink-Customer Copy

# Specialty Analytical

11711 SE Capps Road
Clackamas, OR 97015
(503) 607-1331
Fax (503) 607-1336


October 10, 2011

Christina Johnson
Maul, Foster & Alongi
7223 NE Hazel Dell Avenue
Suite B
Vancouver, WA 98665

TEL: (360) 694-2691
FAX: (360) 906-1958

RE: Port of Camas / 0229.04.03

Order No.: 1110044

Dear Christina Johnson:

Specialty Analytical received 2 samples on 9/8/2011 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Cindy Hillyard
Project Manager

Technical Review

# Specialty Analytical

**Date:** *10-Oct-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | SS-11-2 |
| **Lab Order:** | 1110044 | **Collection Date:** | 9/7/2011 9:30:00 AM |
| **Project:** | Port of Camas / 0229.04.03 | | |
| **Lab ID:** | 1110044-01 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| Acenaphthene | ND | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Acenaphthylene | ND | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Anthracene | 13.2 | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Benz(a)anthracene | 29.2 | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Benzo(a)pyrene | 37.7 | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Benzo(b)fluoranthene | 50.9 | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Benzo(g,h,i)perylene | 33.9 | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Benzo(k)fluoranthene | 16.0 | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Chrysene | 38.7 | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Dibenz(a,h)anthracene | ND | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Fluoranthene | 67.9 | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Fluorene | ND | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Indeno(1,2,3-cd)pyrene | 23.6 | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Naphthalene | ND | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Phenanthrene | 54.7 | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Pyrene | 50.9 | 9.43 | HT | µg/Kg-dry | 1 | 10/7/2011 11:34:00 AM |
| Surr: 2-Fluorobiphenyl | 76.2 | 42.6-128 | | %REC | 1 | 10/7/2011 11:34:00 AM |
| Surr: Nitrobenzene-d5 | 90.6 | 21.7-155 | | %REC | 1 | 10/7/2011 11:34:00 AM |
| Surr: p-Terphenyl-d14 | 84.1 | 44.9-155 | | %REC | 1 | 10/7/2011 11:34:00 AM |

## Specialty Analytical

**Date:** *10-Oct-11*

**CLIENT:** Maul, Foster & Alongi
**Lab Order:** 1110044
**Project:** Port of Camas / 0229.04.03
**Lab ID:** 1110044-02

**Client Sample ID:** SS-14-1
**Collection Date:** 9/7/2011 1:00:00 PM
**Matrix:** SOIL

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,1,1-Trichloroethane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,1,2-Trichloroethane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,1-Dichloroethane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,1-Dichloroethene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,1-Dichloropropene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,2,3-Trichlorobenzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,2,3-Trichloropropane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,2,4-Trichlorobenzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,2,4-Trimethylbenzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,2-Dibromoethane | ND | 6.10 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,2-Dichlorobenzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,2-Dichloroethane | ND | 6.10 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,2-Dichloropropane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,3,5-Trimethylbenzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,3-Dichlorobenzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,3-Dichloropropane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 1,4-Dichlorobenzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 2,2-Dichloropropane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 2-Butanone | 28.9 | 24.4 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 2-Chlorotoluene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 2-Hexanone | ND | 24.4 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 4-Chlorotoluene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 4-Isopropyltoluene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| 4-Methyl-2-pentanone | ND | 24.4 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Acetone | 163 | 61.0 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Benzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Bromobenzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Bromochloromethane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Bromodichloromethane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Bromoform | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Bromomethane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Carbon disulfide | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Carbon tetrachloride | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Chlorobenzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Chloroethane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Chloroform | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Chloromethane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| cis-1,2-Dichloroethene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |

## Specialty Analytical

**Date:** *10-Oct-11*

**CLIENT:** Maul, Foster & Alongi
**Lab Order:** 1110044
**Project:** Port of Camas / 0229.04.03
**Lab ID:** 1110044-02

**Client Sample ID:** SS-14-1
**Collection Date:** 9/7/2011 1:00:00 PM
**Matrix:** SOIL

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| cis-1,3-Dichloropropene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Dibromochloromethane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Dibromomethane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Dichlorodifluoromethane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Ethylbenzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Hexachlorobutadiene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Isopropylbenzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| m,p-Xylene | ND | 24.4 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Methyl tert-butyl ether | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Methylene chloride | ND | 61.0 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| n-Butylbenzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| n-Propylbenzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Naphthalene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| o-Xylene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| sec-Butylbenzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Styrene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| tert-Butylbenzene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Tetrachloroethene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Toluene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| trans-1,2-Dichloroethene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| trans-1,3-Dichloropropene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Trichloroethene | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Trichlorofluoromethane | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Vinyl chloride | ND | 12.2 | HT | µg/Kg-dry | 1 | 10/6/2011 6:56:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 103 | 71.5-112 | HT | %REC | 1 | 10/6/2011 6:56:00 PM |
| Surr: 4-Bromofluorobenzene | 97.0 | 75.7-122 | HT | %REC | 1 | 10/6/2011 6:56:00 PM |
| Surr: Dibromofluoromethane | 121 | 64.3-124 | HT | %REC | 1 | 10/6/2011 6:56:00 PM |
| Surr: Toluene-d8 | 93.3 | 74.9-120 | HT | %REC | 1 | 10/6/2011 6:56:00 PM |

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110044
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_S**

Sample ID: **MBLK-29644** SampType: **MBLK** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5975X_111006A**
Client ID: **ZZZZZ** Batch ID: **29644** TestNo: **SW8260B** Analysis Date: **10/6/2011** SeqNo: **782440**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | | | | | | | | | |
| 1,1,1-Trichloroethane | ND | 10.0 | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | | | | | | | | | |
| 1,1,2-Trichloroethane | ND | 10.0 | | | | | | | | | |
| 1,1-Dichloroethane | ND | 10.0 | | | | | | | | | |
| 1,1-Dichloroethene | ND | 10.0 | | | | | | | | | |
| 1,1-Dichloropropene | ND | 10.0 | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,2,3-Trichloropropane | ND | 10.0 | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 10.0 | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | | | | | | | | | |
| 1,2-Dibromoethane | ND | 5.00 | | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,2-Dichloroethane | ND | 5.00 | | | | | | | | | |
| 1,2-Dichloropropane | ND | 10.0 | | | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,3-Dichloropropane | ND | 10.0 | | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 10.0 | | | | | | | | | |
| 2,2-Dichloropropane | ND | 10.0 | | | | | | | | | |
| 2-Butanone | ND | 20.0 | | | | | | | | | |
| 2-Chlorotoluene | ND | 10.0 | | | | | | | | | |
| 2-Hexanone | ND | 20.0 | | | | | | | | | |
| 4-Chlorotoluene | ND | 10.0 | | | | | | | | | |
| 4-Isopropyltoluene | ND | 10.0 | | | | | | | | | |
| 4-Methyl-2-pentanone | ND | 20.0 | | | | | | | | | |
| Acetone | ND | 50.0 | | | | | | | | | |
| Benzene | ND | 10.0 | | | | | | | | | |
| Bromobenzene | ND | 10.0 | | | | | | | | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110044
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_S**

Sample ID: **MBLK-29644** SampType: **MBLK** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5975X_111006A**
Client ID: **ZZZZZ** Batch ID: **29644** TestNo: **SW8260B** Analysis Date: **10/6/2011** SeqNo: **782440**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bromochloromethane | ND | 10.0 | | | | | | | | | |
| Bromodichloromethane | ND | 10.0 | | | | | | | | | |
| Bromoform | ND | 10.0 | | | | | | | | | |
| Bromomethane | ND | 10.0 | | | | | | | | | |
| Carbon disulfide | ND | 10.0 | | | | | | | | | |
| Carbon tetrachloride | ND | 10.0 | | | | | | | | | |
| Chlorobenzene | ND | 10.0 | | | | | | | | | |
| Chloroethane | ND | 10.0 | | | | | | | | | |
| Chloroform | ND | 10.0 | | | | | | | | | |
| Chloromethane | ND | 10.0 | | | | | | | | | |
| cis-1,2-Dichloroethene | ND | 10.0 | | | | | | | | | |
| cis-1,3-Dichloropropene | ND | 10.0 | | | | | | | | | |
| Dibromochloromethane | ND | 10.0 | | | | | | | | | |
| Dibromomethane | ND | 10.0 | | | | | | | | | |
| Dichlorodifluoromethane | ND | 10.0 | | | | | | | | | |
| Ethylbenzene | ND | 10.0 | | | | | | | | | |
| Hexachlorobutadiene | ND | 10.0 | | | | | | | | | |
| Isopropylbenzene | ND | 10.0 | | | | | | | | | |
| m,p-Xylene | ND | 20.0 | | | | | | | | | |
| Methyl tert-butyl ether | ND | 10.0 | | | | | | | | | |
| Methylene chloride | 29.54 | 50.0 | | | | | | | | | J |
| n-Butylbenzene | ND | 10.0 | | | | | | | | | |
| n-Propylbenzene | ND | 10.0 | | | | | | | | | |
| Naphthalene | 1.61 | 10.0 | | | | | | | | | J |
| o-Xylene | ND | 10.0 | | | | | | | | | |
| sec-Butylbenzene | ND | 10.0 | | | | | | | | | |
| Styrene | ND | 10.0 | | | | | | | | | |
| tert-Butylbenzene | ND | 10.0 | | | | | | | | | |
| Tetrachloroethene | ND | 10.0 | | | | | | | | | |
| Toluene | ND | 10.0 | | | | | | | | | |
| trans-1,2-Dichloroethene | ND | 10.0 | | | | | | | | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110044
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_S**

Sample ID: **MBLK-29644** SampType: **MBLK** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5975X_111006A**
Client ID: **ZZZZZ** Batch ID: **29644** TestNo: **SW8260B** Analysis Date: **10/6/2011** SeqNo: **782440**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | 10.0 | | | | | | | | | |
| Trichloroethene | ND | 10.0 | | | | | | | | | |
| Trichlorofluoromethane | ND | 10.0 | | | | | | | | | |
| Vinyl chloride | ND | 10.0 | | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 102.9 | 0 | 100 | 0 | 103 | 71.5 | 112 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 88.79 | 0 | 100 | 0 | 88.8 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 118.7 | 0 | 100 | 0 | 119 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 96.03 | 0 | 100 | 0 | 96 | 74.9 | 120 | 0 | 0 | | |

Sample ID: **MBLK-29644** SampType: **MBLK** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5975X_111006A**
Client ID: **ZZZZZ** Batch ID: **29644** TestNo: **SW8260B** Analysis Date: **10/7/2011** SeqNo: **782806**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | | | | | | | | | |
| 1,1,1-Trichloroethane | ND | 10.0 | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | | | | | | | | | |
| 1,1,2-Trichloroethane | ND | 10.0 | | | | | | | | | |
| 1,1-Dichloroethane | ND | 10.0 | | | | | | | | | |
| 1,1-Dichloroethene | ND | 10.0 | | | | | | | | | |
| 1,1-Dichloropropene | ND | 10.0 | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,2,3-Trichloropropane | ND | 10.0 | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 10.0 | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | | | | | | | | | |
| 1,2-Dibromoethane | ND | 5.00 | | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,2-Dichloroethane | ND | 5.00 | | | | | | | | | |
| 1,2-Dichloropropane | ND | 10.0 | | | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 10.0 | | | | | | | | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110044
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_S**

Sample ID: **MBLK-29644** SampType: **MBLK** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5975X_111006A**
Client ID: **ZZZZZ** Batch ID: **29644** TestNo: **SW8260B** Analysis Date: **10/7/2011** SeqNo: **782806**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,3-Dichloropropane | ND | 10.0 | | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 10.0 | | | | | | | | | |
| 2,2-Dichloropropane | ND | 10.0 | | | | | | | | | |
| 2-Butanone | ND | 20.0 | | | | | | | | | |
| 2-Chlorotoluene | ND | 10.0 | | | | | | | | | |
| 2-Hexanone | ND | 20.0 | | | | | | | | | |
| 4-Chlorotoluene | ND | 10.0 | | | | | | | | | |
| 4-Isopropyltoluene | ND | 10.0 | | | | | | | | | |
| 4-Methyl-2-pentanone | ND | 20.0 | | | | | | | | | |
| Acetone | ND | 50.0 | | | | | | | | | |
| Benzene | ND | 10.0 | | | | | | | | | |
| Bromobenzene | ND | 10.0 | | | | | | | | | |
| Bromochloromethane | ND | 10.0 | | | | | | | | | |
| Bromodichloromethane | ND | 10.0 | | | | | | | | | |
| Bromoform | ND | 10.0 | | | | | | | | | |
| Bromomethane | ND | 10.0 | | | | | | | | | |
| Carbon disulfide | ND | 10.0 | | | | | | | | | |
| Carbon tetrachloride | ND | 10.0 | | | | | | | | | |
| Chlorobenzene | ND | 10.0 | | | | | | | | | |
| Chloroethane | ND | 10.0 | | | | | | | | | |
| Chloroform | ND | 10.0 | | | | | | | | | |
| Chloromethane | ND | 10.0 | | | | | | | | | |
| cis-1,2-Dichloroethene | ND | 10.0 | | | | | | | | | |
| cis-1,3-Dichloropropene | ND | 10.0 | | | | | | | | | |
| Dibromochloromethane | ND | 10.0 | | | | | | | | | |
| Dibromomethane | ND | 10.0 | | | | | | | | | |
| Dichlorodifluoromethane | ND | 10.0 | | | | | | | | | |
| Ethylbenzene | ND | 10.0 | | | | | | | | | |
| Hexachlorobutadiene | ND | 10.0 | | | | | | | | | |
| Isopropylbenzene | ND | 10.0 | | | | | | | | | |
| m,p-Xylene | ND | 20.0 | | | | | | | | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110044
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_S**

Sample ID: **MBLK-29644** SampType: **MBLK** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5975X_111006A**
Client ID: **ZZZZZ** Batch ID: **29644** TestNo: **SW8260B** Analysis Date: **10/7/2011** SeqNo: **782806**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | ND | 10.0 | | | | | | | | | |
| Methylene chloride | ND | 50.0 | | | | | | | | | |
| n-Butylbenzene | ND | 10.0 | | | | | | | | | |
| n-Propylbenzene | ND | 10.0 | | | | | | | | | |
| Naphthalene | 1.36 | 10.0 | | | | | | | | | J |
| o-Xylene | ND | 10.0 | | | | | | | | | |
| sec-Butylbenzene | ND | 10.0 | | | | | | | | | |
| Styrene | ND | 10.0 | | | | | | | | | |
| tert-Butylbenzene | ND | 10.0 | | | | | | | | | |
| Tetrachloroethene | ND | 10.0 | | | | | | | | | |
| Toluene | ND | 10.0 | | | | | | | | | |
| trans-1,2-Dichloroethene | ND | 10.0 | | | | | | | | | |
| trans-1,3-Dichloropropene | ND | 10.0 | | | | | | | | | |
| Trichloroethene | ND | 10.0 | | | | | | | | | |
| Trichlorofluoromethane | ND | 10.0 | | | | | | | | | |
| Vinyl chloride | ND | 10.0 | | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 95.76 | 0 | 100 | 0 | 95.8 | 71.5 | 112 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 87.36 | 0 | 100 | 0 | 87.4 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 113.5 | 0 | 100 | 0 | 114 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 95.63 | 0 | 100 | 0 | 95.6 | 74.9 | 120 | 0 | 0 | | |

Sample ID: **LCS-29644** SampType: **LCS** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5975X_111006A**
Client ID: **ZZZZZ** Batch ID: **29644** TestNo: **SW8260B** Analysis Date: **10/6/2011** SeqNo: **782439**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 65.98 | 10.0 | 60 | 0 | 110 | 65.4 | 133 | 0 | 0 | | |
| Benzene | 65.59 | 10.0 | 60 | 0 | 109 | 78 | 123 | 0 | 0 | | |
| Chlorobenzene | 65.09 | 10.0 | 60 | 0 | 108 | 79.5 | 125 | 0 | 0 | | |
| Toluene | 56.4 | 10.0 | 60 | 0 | 94 | 77.5 | 132 | 0 | 0 | | |
| Trichloroethene | 67.34 | 10.0 | 60 | 0 | 112 | 72.4 | 124 | 0 | 0 | | |

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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110044
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_S**

Sample ID: **1110044-02AMS** SampType: **MS** TestCode: **8260_S** Units: **µg/Kg-dry** Prep Date: **10/6/2011** Run ID: **5975X_111006A**
Client ID: **SS-14-1** Batch ID: **29644** TestNo: **SW8260B** Analysis Date: **10/6/2011** SeqNo: **782809**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 50.5 | 12.2 | 48.78 | 0 | 104 | 69.2 | 158 | 0 | 0 | | HT |
| Benzene | 47.94 | 12.2 | 48.78 | 0 | 98.3 | 71.7 | 147 | 0 | 0 | | HT |
| Chlorobenzene | 41.57 | 12.2 | 48.78 | 0 | 85.2 | 75 | 148 | 0 | 0 | | HT |
| Toluene | 39.72 | 12.2 | 48.78 | 0 | 81.4 | 75.8 | 153 | 0 | 0 | | HT |
| Trichloroethene | 41.67 | 12.2 | 48.78 | 0 | 85.4 | 77.1 | 138 | 0 | 0 | | HT |

Sample ID: **1110044-02AMSD** SampType: **MSD** TestCode: **8260_S** Units: **µg/Kg** Prep Date: **10/6/2011** Run ID: **5975X_111006A**
Client ID: **SS-14-1** Batch ID: **29644** TestNo: **SW8260B** Analysis Date: **10/6/2011** SeqNo: **782810**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 38.25 | 10.0 | 40 | 0 | 95.6 | 69.2 | 158 | 41.41 | 7.93 | 20 | HT |
| Benzene | 28.23 | 10.0 | 40 | 0 | 70.6 | 71.7 | 147 | 39.31 | 32.8 | 20 | S,R,HT |
| Chlorobenzene | 17.7 | 10.0 | 40 | 0 | 44.2 | 75 | 148 | 34.09 | 63.3 | 20 | S,R,HT |
| Toluene | 17.87 | 10.0 | 40 | 0 | 44.7 | 75.8 | 153 | 32.57 | 58.3 | 20 | S,R,HT |
| Trichloroethene | 24.82 | 10.0 | 40 | 0 | 62 | 77.1 | 138 | 34.17 | 31.7 | 20 | S,R,HT |

Sample ID: **CCV-29644** SampType: **CCV** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5975X_111006A**
Client ID: **ZZZZZ** Batch ID: **29644** TestNo: **SW8260B** Analysis Date: **10/6/2011** SeqNo: **782438**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 62.39 | 10.0 | 60 | 0 | 104 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 57.44 | 10.0 | 60 | 0 | 95.7 | 80 | 120 | 0 | 0 | | |
| Chloroform | 56.67 | 10.0 | 60 | 0 | 94.4 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 60.28 | 10.0 | 60 | 0 | 100 | 80 | 120 | 0 | 0 | | |
| Toluene | 50.44 | 10.0 | 60 | 0 | 84.1 | 80 | 120 | 0 | 0 | | |
| Vinyl chloride | 58.47 | 10.0 | 60 | 0 | 97.4 | 80 | 120 | 0 | 0 | | |

Sample ID: **CCV-29644** SampType: **CCV** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5975X_111006A**
Client ID: **ZZZZZ** Batch ID: **29644** TestNo: **SW8260B** Analysis Date: **10/7/2011** SeqNo: **782805**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110044
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_S**

Sample ID: **CCV-29644** SampType: **CCV** TestCode: **8260_S** Units: **µg/Kg** Prep Date: Run ID: **5975X_111006A**
Client ID: **ZZZZZ** Batch ID: **29644** TestNo: **SW8260B** Analysis Date: **10/7/2011** SeqNo: **782805**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 58.52 | 10.0 | 60 | 0 | 97.5 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 53.57 | 10.0 | 60 | 0 | 89.3 | 80 | 120 | 0 | 0 | | |
| Chloroform | 50.68 | 10.0 | 60 | 0 | 84.5 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 55.69 | 10.0 | 60 | 0 | 92.8 | 80 | 120 | 0 | 0 | | |
| Toluene | 48.84 | 10.0 | 60 | 0 | 81.4 | 80 | 120 | 0 | 0 | | |
| Vinyl chloride | 51.83 | 10.0 | 60 | 0 | 86.4 | 80 | 120 | 0 | 0 | | |

**Qualifiers:**
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110044
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **MB-29637** SampType: **MBLK** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **10/6/2011** Run ID: **5975Q_111007A**
Client ID: **ZZZZZ** Batch ID: **29637** TestNo: **8270SIM** Analysis Date: **10/7/2011** SeqNo: **782861**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | ND | 6.67 | | | | | | | | | |
| Acenaphthylene | ND | 6.67 | | | | | | | | | |
| Anthracene | ND | 6.67 | | | | | | | | | |
| Benz(a)anthracene | 2 | 6.67 | | | | | | | | | J |
| Benzo(a)pyrene | 0.6667 | 6.67 | | | | | | | | | J |
| Benzo(b)fluoranthene | 1.333 | 6.67 | | | | | | | | | J |
| Benzo(g,h,i)perylene | ND | 6.67 | | | | | | | | | |
| Benzo(k)fluoranthene | 0.6667 | 6.67 | | | | | | | | | J |
| Chrysene | 2 | 6.67 | | | | | | | | | J |
| Dibenz(a,h)anthracene | 0.6667 | 6.67 | | | | | | | | | J |
| Fluoranthene | 1.333 | 6.67 | | | | | | | | | J |
| Fluorene | ND | 6.67 | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 6.67 | | | | | | | | | |
| Naphthalene | 2 | 6.67 | | | | | | | | | J |
| Phenanthrene | 0.6667 | 6.67 | | | | | | | | | J |
| Pyrene | 1.333 | 6.67 | | | | | | | | | J |
| Surr: 2-Fluorobiphenyl | 4309 | 0 | 6667 | 0 | 64.6 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 5830 | 0 | 6667 | 0 | 87.4 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 6182 | 0 | 6667 | 0 | 92.7 | 44.9 | 155 | 0 | 0 | | |

Sample ID: **LCS-29637** SampType: **LCS** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **10/6/2011** Run ID: **5975Q_111007A**
Client ID: **ZZZZZ** Batch ID: **29637** TestNo: **8270SIM** Analysis Date: **10/7/2011** SeqNo: **782863**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 236.7 | 6.67 | 333.3 | 0 | 71 | 39.6 | 107 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 284.7 | 6.67 | 333.3 | 0 | 85.4 | 49.7 | 135 | 0 | 0 | | |
| Chrysene | 278.7 | 6.67 | 333.3 | 0 | 83.6 | 57.1 | 130 | 0 | 0 | | |
| Naphthalene | 216 | 6.67 | 333.3 | 0 | 64.8 | 29.1 | 109 | 0 | 0 | | |
| Phenanthrene | 277.3 | 6.67 | 333.3 | 0 | 83.2 | 48.4 | 115 | 0 | 0 | | |
| Pyrene | 235.3 | 6.67 | 333.3 | 0 | 70.6 | 47.2 | 134 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110044
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **1110044-01AMS** SampType: **MS** TestCode: **PAHLL_S** Units: **µg/Kg-dry** Prep Date: **10/6/2011** Run ID: **5975Q_111007A**
Client ID: **SS-11-2** Batch ID: **29637** TestNo: **8270SIM** Analysis Date: **10/7/2011** SeqNo: **783016**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 324.4 | 9.43 | 471.5 | 3.772 | 68 | 33.7 | 111 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 405.5 | 9.43 | 471.5 | 33.95 | 78.8 | 15 | 128 | 0 | 0 | | |
| Chrysene | 385.7 | 9.43 | 471.5 | 38.66 | 73.6 | 37.5 | 125 | 0 | 0 | | |
| Naphthalene | 334.7 | 9.43 | 471.5 | 4.715 | 70 | 27.7 | 108 | 0 | 0 | | |
| Phenanthrene | 374.4 | 9.43 | 471.5 | 54.69 | 67.8 | 20.2 | 139 | 0 | 0 | | |
| Pyrene | 298 | 9.43 | 471.5 | 50.92 | 52.4 | 26.8 | 142 | 0 | 0 | | |

Sample ID: **1110044-01AMSD** SampType: **MSD** TestCode: **PAHLL_S** Units: **µg/Kg-dry** Prep Date: **10/6/2011** Run ID: **5975Q_111007A**
Client ID: **SS-11-2** Batch ID: **29637** TestNo: **8270SIM** Analysis Date: **10/7/2011** SeqNo: **783017**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 335.7 | 9.43 | 471.5 | 3.772 | 70.4 | 33.7 | 111 | 324.4 | 3.43 | 20 | |
| Benzo(g,h,i)perylene | 375.3 | 9.43 | 471.5 | 33.95 | 72.4 | 15 | 128 | 405.5 | 7.73 | 20 | |
| Chrysene | 350.8 | 9.43 | 471.5 | 38.66 | 66.2 | 37.5 | 125 | 385.7 | 9.48 | 20 | |
| Naphthalene | 324.4 | 9.43 | 471.5 | 4.715 | 67.8 | 27.7 | 108 | 334.7 | 3.15 | 20 | |
| Phenanthrene | 401.7 | 9.43 | 471.5 | 54.69 | 73.6 | 20.2 | 139 | 374.4 | 7.05 | 20 | |
| Pyrene | 251.8 | 9.43 | 471.5 | 50.92 | 42.6 | 26.8 | 142 | 298 | 16.8 | 20 | |

Sample ID: **CCV-29637** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_111007A**
Client ID: **ZZZZZ** Batch ID: **29637** TestNo: **8270SIM** Analysis Date: **10/7/2011** SeqNo: **782860**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 70.67 | 6.67 | 66.67 | 0 | 106 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 68.67 | 6.67 | 66.67 | 0 | 103 | 70 | 130 | 0 | 0 | | |
| Anthracene | 71.33 | 6.67 | 66.67 | 0 | 107 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 68 | 6.67 | 66.67 | 0 | 102 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 74 | 6.67 | 66.67 | 0 | 111 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 72 | 6.67 | 66.67 | 0 | 108 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 72.67 | 6.67 | 66.67 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 78.67 | 6.67 | 66.67 | 0 | 118 | 70 | 130 | 0 | 0 | | |
| Chrysene | 79.33 | 6.67 | 66.67 | 0 | 119 | 70 | 130 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110044
**Project:** Port of Camas / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **CCV-29637** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_111007A**
Client ID: **ZZZZZ** Batch ID: **29637** TestNo: **8270SIM** Analysis Date: **10/7/2011** SeqNo: **782860**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dibenz(a,h)anthracene | 77.33 | 6.67 | 66.67 | 0 | 116 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 79.33 | 6.67 | 66.67 | 0 | 119 | 70 | 130 | 0 | 0 | | |
| Fluorene | 76 | 6.67 | 66.67 | 0 | 114 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 79.33 | 6.67 | 66.67 | 0 | 119 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 71.33 | 6.67 | 66.67 | 0 | 107 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 78 | 6.67 | 66.67 | 0 | 117 | 70 | 130 | 0 | 0 | | |
| Pyrene | 64.67 | 6.67 | 66.67 | 0 | 97 | 70 | 130 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

# KEY TO FLAGS

Rev. May 12, 2010

| | |
|---|---|
| A | This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards |
| A1 | This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards. |
| A2 | This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard. |
| A3 | The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type. |
| A4 | The product appears to be aged or degraded diesel. |
| B | The blank exhibited a positive result great than the reporting limit for this compound. |
| CN | See Case Narrative. |
| D | Result is based from a dilution. |
| E | Result exceeds the calibration range for this compound. The result should be considered as estimate. |
| F | The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library. |
| G | Result may be biased high due to biogenic interferences. Clean up is recommended. |
| H | Sample was analyzed outside recommended holding time. |
| HT | At clients request, samples was analyzed outside of recommended holding time. |
| J | The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration. |
| K | Diesel result is biased high due to amount of Oil contained in the sample. |
| L | Diesel result is biased high due to amount of Gasoline contained in the sample. |
| M | Oil result is biased high due to amount of Diesel contained in the sample. |
| MC | Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant. |
| MI | Result is outside control limits due to matrix interference. |
| MSA | Value determined by Method of Standard Addition. |
| O | Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements. |
| Q | Detection levels elevated due to sample matrix. |
| R | RPD control limits were exceeded. |
| RF | Duplicate failed due to result being at or near the method-reporting limit. |
| RP | Matrix spike values exceed established QC limits; post digestion spike is in control. |
| S | Recovery is outside control limits. |
| SC | Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements. |
| * | The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit. |

# CHAIN OF CUSTODY RECORD

Page 3 of ___


## Specialty Analytical

11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336


Contact Person/Project Manager Christina Johnson
Company MFA
Address 7223 NE Hazel Dell Suite F

Phone 360-433-0249 Fax —
Project No. 0229.04.03 Project Name Port of Camas Wash
Project Site Location OR ___ WA X Other ___
Invoice To ___ P.O. No. ___

Collected By:
Signature
Printed Christina Johnson

Signature ___
Printed ___

Turn Around Time
☒ Normal 5-7 Business Days
☐ Rush ___
Specify

**Rush Analyses Must Be Scheduled With The Lab In Advance**

For Laboratory Use
Lab Job No. ~~H090403~~ 1110044
Shipped Via ES Client
Air Bill No. ___

Temperature On Receipt ___ °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: HCID | GRO | DX PCBs | PAH (8270 SIM) | VOCs (8260B) | RCRA 8 (+ to meet MTCA A) | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/7 | 920 | SS-10-1 | S | 1 | | | X | | | X | | |
| | 930 | SS-11-2 | | 1 | | | X | ⊗ | | X | | |
| | 9:45 | SS-12-1 | | 1 | | | X | | | X | | |
| | 9:55 | SS-13-1 | | 1 | | | X | | | X | | |
| | 13:05 | SS-14-2 | | 5 | X | | | | | | HOLD | |
| | 13:00 | SS-14-1 | | 5 | X | X | X | | ⊗ | X | | |
| | 10:15 | SS-15-1 | | 1 | | | X | | | | | |
| | 10:40 | SS-16-1 | | 1 | | | X | X | | X | | |
| | 10:45 | SS-17-1 | | 1 | | | X | | | | | |
| | 10:55 | SS-17-2 | | | | | | | | | HOLD | |
| | 11:05 | SS-18-1 | | 1 | | | X | | | | | |
| | 11:10 | SS-18-2 | | | | | | | | | HOLD | |

| Relinquished By: | Date | Time | Received By: | Relinquished By: | Date | Time |
|---|---|---|---|---|---|---|
| Company: MFA | 9/8/11 | 1515 | Company: | Company: | | |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Received For Lab By: Nikki Pappas — Date 9/8/11 — Time 1515

Copies: White-Original Yellow-Project File Pink-Customer Copy

# Specialty Analytical

11711 SE Capps Road
Clackamas, OR 97015
(503) 607-1331
Fax (503) 607-1336


November 10, 2011

Alan Hughes
Maul, Foster & Alongi
400 East Mill Plain Blvd
Suite 400
Vancouver, WA 98660

TEL: (360) 694-2691
FAX: (360) 906-1958

RE: Port of C/W / 0229.04.03

Dear Alan Hughes:

Order No.: 1110243

Specialty Analytical received 21 samples on 10/28/2011 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Cindy Hillyard
Project Manager

Technical Review

# Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-12-S-1.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 10:15:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-01 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **kh** |
| Diesel | 39.8 | 20.1 | | mg/Kg-dry | 1 | 10/31/2011 |
| Lube Oil | 70.3 | 66.8 | | mg/Kg-dry | 1 | 10/31/2011 |
| Surr: o-Terphenyl | 81.1 | 50-150 | | %REC | 1 | 10/31/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | 2.84 | 2.30 | | mg/Kg-dry | 1 | 11/1/2011 4:10:05 PM |
| Barium | 202 | 1.15 | | mg/Kg-dry | 1 | 11/1/2011 4:10:05 PM |
| Cadmium | ND | 0.115 | | mg/Kg-dry | 1 | 11/1/2011 4:10:05 PM |
| Chromium | 20.1 | 0.576 | | mg/Kg-dry | 1 | 11/1/2011 4:10:05 PM |
| Lead | 7.41 | 2.30 | | mg/Kg-dry | 1 | 11/1/2011 4:10:05 PM |
| Selenium | ND | 2.30 | | mg/Kg-dry | 1 | 11/1/2011 4:10:05 PM |
| Silver | ND | 2.30 | | mg/Kg-dry | 1 | 11/1/2011 4:10:05 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0306 | 0.0167 | | mg/Kg-dry | 1 | 10/31/2011 |
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,1,1-Trichloroethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,1,2-Trichloroethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,1-Dichloroethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,1-Dichloroethene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,1-Dichloropropene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,2,3-Trichlorobenzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,2,3-Trichloropropane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,2,4-Trichlorobenzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,2,4-Trimethylbenzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,2-Dibromoethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,2-Dichlorobenzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,2-Dichloroethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,2-Dichloropropane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,3,5-Trimethylbenzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,3-Dichlorobenzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,3-Dichloropropane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 1,4-Dichlorobenzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 2,2-Dichloropropane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 2-Butanone | ND | 38.0 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 2-Chlorotoluene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 2-Hexanone | ND | 19.0 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 4-Chlorotoluene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-12-S-1.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 10:15:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-01 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 4-Isopropyltoluene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| 4-Methyl-2-pentanone | ND | 38.0 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Acetone | 147 | 94.9 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Benzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Bromobenzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Bromochloromethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Bromodichloromethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Bromoform | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Bromomethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Carbon Disulfide | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Carbon tetrachloride | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Chlorobenzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Chloroethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Chloroform | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Chloromethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| cis-1,2-Dichloroethene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| cis-1,3-Dichloropropene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Dibromochloromethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Dibromomethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Dichlorodifluoromethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Ethylbenzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Hexachlorobutadiene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Isopropylbenzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| m,p-Xylene | ND | 19.0 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Methyl tert-butyl ether | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Methylene Chloride | ND | 47.4 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| n-Butylbenzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| n-Propylbenzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Naphthalene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| o-Xylene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| sec-Butylbenzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Styrene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| tert-Butylbenzene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Tetrachloroethene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Toluene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| trans-1,2-Dichloroethene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| trans-1,3-Dichloropropene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Trichloroethene | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Trichlorofluoromethane | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Vinyl Chloride | ND | 9.49 | | ug/Kg-dry | 1 | 11/8/2011 3:34:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 111 | 71.5-112 | | %REC | 1 | 11/8/2011 3:34:00 PM |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-12-S-1.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 10:15:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-01 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| Surr: 4-Bromofluorobenzene | 83.7 | 75.7-122 | | %REC | 1 | 11/8/2011 3:34:00 PM |
| Surr: Dibromofluoromethane | 104 | 64.3-124 | | %REC | 1 | 11/8/2011 3:34:00 PM |
| Surr: Toluene-d8 | 113 | 74.9-120 | | %REC | 1 | 11/8/2011 3:34:00 PM |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-12-S-3.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 10:30:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-02 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-12-S-5.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 10:40:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-03 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-13-S-1.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 11:00:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-04 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **kh** |
| Diesel | 291 | 24.5 | A1 | mg/Kg-dry | 1 | 10/31/2011 |
| Lube Oil | 491 | 81.8 | A2 | mg/Kg-dry | 1 | 10/31/2011 |
| Surr: o-Terphenyl | 80.6 | 50-150 | | %REC | 1 | 10/31/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | ND | 2.82 | | mg/Kg-dry | 1 | 11/1/2011 5:00:23 PM |
| Barium | 151 | 1.41 | | mg/Kg-dry | 1 | 11/1/2011 5:00:23 PM |
| Cadmium | ND | 0.141 | | mg/Kg-dry | 1 | 11/1/2011 5:00:23 PM |
| Chromium | 17.6 | 0.705 | | mg/Kg-dry | 1 | 11/1/2011 5:00:23 PM |
| Lead | 14.6 | 2.82 | | mg/Kg-dry | 1 | 11/1/2011 5:00:23 PM |
| Selenium | ND | 2.82 | | mg/Kg-dry | 1 | 11/1/2011 5:00:23 PM |
| Silver | ND | 2.82 | | mg/Kg-dry | 1 | 11/1/2011 5:00:23 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0285 | 0.0155 | | mg/Kg-dry | 1 | 10/31/2011 |
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,1,1-Trichloroethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,1,2-Trichloroethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,1-Dichloroethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,1-Dichloroethene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,1-Dichloropropene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,2,3-Trichlorobenzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,2,3-Trichloropropane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,2,4-Trichlorobenzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,2,4-Trimethylbenzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,2-Dibromoethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,2-Dichlorobenzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,2-Dichloroethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,2-Dichloropropane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,3,5-Trimethylbenzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,3-Dichlorobenzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,3-Dichloropropane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 1,4-Dichlorobenzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 2,2-Dichloropropane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 2-Butanone | ND | 127 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 2-Chlorotoluene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 2-Hexanone | ND | 63.7 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 4-Chlorotoluene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-13-S-1.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 11:00:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-04 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 4-Isopropyltoluene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| 4-Methyl-2-pentanone | ND | 127 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Acetone | 403 | 319 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Benzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Bromobenzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Bromochloromethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Bromodichloromethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Bromoform | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Bromomethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Carbon Disulfide | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Carbon tetrachloride | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Chlorobenzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Chloroethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Chloroform | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Chloromethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| cis-1,2-Dichloroethene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| cis-1,3-Dichloropropene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Dibromochloromethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Dibromomethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Dichlorodifluoromethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Ethylbenzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Hexachlorobutadiene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Isopropylbenzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| m,p-Xylene | ND | 63.7 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Methyl tert-butyl ether | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Methylene Chloride | ND | 159 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| n-Butylbenzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| n-Propylbenzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Naphthalene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| o-Xylene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| sec-Butylbenzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Styrene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| tert-Butylbenzene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Tetrachloroethene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Toluene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| trans-1,2-Dichloroethene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| trans-1,3-Dichloropropene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Trichloroethene | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Trichlorofluoromethane | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Vinyl Chloride | ND | 31.9 | | ug/Kg-dry | 1 | 11/5/2011 2:26:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 113 | 71.5-112 | S | %REC | 1 | 11/5/2011 2:26:00 PM |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-13-S-1.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 11:00:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-04 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| Surr: 4-Bromofluorobenzene | 90.1 | 75.7-122 | | %REC | 1 | 11/5/2011 2:26:00 PM |
| Surr: Dibromofluoromethane | 102 | 64.3-124 | | %REC | 1 | 11/5/2011 2:26:00 PM |
| Surr: Toluene-d8 | 100 | 74.9-120 | | %REC | 1 | 11/5/2011 2:26:00 PM |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-13-S-3.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 11:15:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-05 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-13-S-5.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 11:30:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-06 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-14-S-1.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 11:40:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-07 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **kh** |
| Diesel | ND | 19.5 | | mg/Kg-dry | 1 | 10/31/2011 |
| Lube Oil | ND | 64.9 | | mg/Kg-dry | 1 | 10/31/2011 |
| Surr: o-Terphenyl | 89.3 | 50-150 | | %REC | 1 | 10/31/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | ND | 2.16 | | mg/Kg-dry | 1 | 11/1/2011 5:05:24 PM |
| Barium | 231 | 1.08 | | mg/Kg-dry | 1 | 11/1/2011 5:05:24 PM |
| Cadmium | ND | 0.108 | | mg/Kg-dry | 1 | 11/1/2011 5:05:24 PM |
| Chromium | 19.1 | 0.540 | | mg/Kg-dry | 1 | 11/1/2011 5:05:24 PM |
| Lead | 4.68 | 2.16 | | mg/Kg-dry | 1 | 11/1/2011 5:05:24 PM |
| Selenium | ND | 2.16 | | mg/Kg-dry | 1 | 11/1/2011 5:05:24 PM |
| Silver | ND | 2.16 | | mg/Kg-dry | 1 | 11/1/2011 5:05:24 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0264 | 0.0144 | | mg/Kg-dry | 1 | 10/31/2011 |
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,1,1-Trichloroethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,1,2-Trichloroethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,1-Dichloroethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,1-Dichloroethene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,1-Dichloropropene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,2,3-Trichlorobenzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,2,3-Trichloropropane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,2,4-Trichlorobenzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,2,4-Trimethylbenzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,2-Dibromoethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,2-Dichlorobenzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,2-Dichloroethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,2-Dichloropropane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,3,5-Trimethylbenzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,3-Dichlorobenzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,3-Dichloropropane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 1,4-Dichlorobenzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 2,2-Dichloropropane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 2-Butanone | 72.3 | 60.7 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 2-Chlorotoluene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 2-Hexanone | ND | 30.3 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 4-Chlorotoluene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-14-S-1.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 11:40:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-07 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 4-Isopropyltoluene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| 4-Methyl-2-pentanone | ND | 60.7 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Acetone | 300 | 152 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Benzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Bromobenzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Bromochloromethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Bromodichloromethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Bromoform | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Bromomethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Carbon Disulfide | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Carbon tetrachloride | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Chlorobenzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Chloroethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Chloroform | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Chloromethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| cis-1,2-Dichloroethene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| cis-1,3-Dichloropropene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Dibromochloromethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Dibromomethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Dichlorodifluoromethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Ethylbenzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Hexachlorobutadiene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Isopropylbenzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| m,p-Xylene | ND | 30.3 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Methyl tert-butyl ether | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Methylene Chloride | ND | 75.8 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| n-Butylbenzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| n-Propylbenzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Naphthalene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| o-Xylene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| sec-Butylbenzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Styrene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| tert-Butylbenzene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Tetrachloroethene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Toluene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| trans-1,2-Dichloroethene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| trans-1,3-Dichloropropene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Trichloroethene | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Trichlorofluoromethane | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Vinyl Chloride | ND | 15.2 | | ug/Kg-dry | 1 | 11/9/2011 7:00:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 105 | 71.5-112 | | %REC | 1 | 11/9/2011 7:00:00 PM |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-14-S-1.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 11:40:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-07 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| Surr: 4-Bromofluorobenzene | 101 | 75.7-122 | | %REC | 1 | 11/9/2011 7:00:00 PM |
| Surr: Dibromofluoromethane | 104 | 64.3-124 | | %REC | 1 | 11/9/2011 7:00:00 PM |
| Surr: Toluene-d8 | 109 | 74.9-120 | | %REC | 1 | 11/9/2011 7:00:00 PM |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-14-S-3.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 11:50:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-08 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-14-S-5.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 12:05:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-09 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-15-S-1.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 12:30:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-10 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **kh** |
| Diesel | ND | 19.4 | | mg/Kg-dry | 1 | 10/31/2011 |
| Lube Oil | ND | 64.8 | | mg/Kg-dry | 1 | 10/31/2011 |
| Surr: o-Terphenyl | 87.6 | 50-150 | | %REC | 1 | 10/31/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | ND | 2.40 | | mg/Kg-dry | 1 | 11/1/2011 5:10:25 PM |
| Barium | 197 | 1.20 | | mg/Kg-dry | 1 | 11/1/2011 5:10:25 PM |
| Cadmium | ND | 0.120 | | mg/Kg-dry | 1 | 11/1/2011 5:10:25 PM |
| Chromium | 18.1 | 0.600 | | mg/Kg-dry | 1 | 11/1/2011 5:10:25 PM |
| Lead | 2.46 | 2.40 | | mg/Kg-dry | 1 | 11/1/2011 5:10:25 PM |
| Selenium | ND | 2.40 | | mg/Kg-dry | 1 | 11/1/2011 5:10:25 PM |
| Silver | ND | 2.40 | | mg/Kg-dry | 1 | 11/1/2011 5:10:25 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.0229 | 0.0151 | | mg/Kg-dry | 1 | 10/31/2011 |
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,1,1-Trichloroethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,1,2-Trichloroethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,1-Dichloroethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,1-Dichloroethene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,1-Dichloropropene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,2,3-Trichlorobenzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,2,3-Trichloropropane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,2,4-Trichlorobenzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,2,4-Trimethylbenzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,2-Dibromoethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,2-Dichlorobenzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,2-Dichloroethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,2-Dichloropropane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,3,5-Trimethylbenzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,3-Dichlorobenzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,3-Dichloropropane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 1,4-Dichlorobenzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 2,2-Dichloropropane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 2-Butanone | ND | 110 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 2-Chlorotoluene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 2-Hexanone | ND | 55.2 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 4-Chlorotoluene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-15-S-1.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 12:30:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-10 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 4-Isopropyltoluene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| 4-Methyl-2-pentanone | ND | 110 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Acetone | ND | 276 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Benzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Bromobenzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Bromochloromethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Bromodichloromethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Bromoform | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Bromomethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Carbon Disulfide | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Carbon tetrachloride | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Chlorobenzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Chloroethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Chloroform | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Chloromethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| cis-1,2-Dichloroethene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| cis-1,3-Dichloropropene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Dibromochloromethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Dibromomethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Dichlorodifluoromethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Ethylbenzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Hexachlorobutadiene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Isopropylbenzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| m,p-Xylene | ND | 55.2 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Methyl tert-butyl ether | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Methylene Chloride | ND | 138 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| n-Butylbenzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| n-Propylbenzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Naphthalene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| o-Xylene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| sec-Butylbenzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Styrene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| tert-Butylbenzene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Tetrachloroethene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Toluene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| trans-1,2-Dichloroethene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| trans-1,3-Dichloropropene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Trichloroethene | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Trichlorofluoromethane | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Vinyl Chloride | ND | 27.6 | | ug/Kg-dry | 1 | 11/8/2011 9:58:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 114 | 71.5-112 | S | %REC | 1 | 11/8/2011 9:58:00 PM |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-15-S-1.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 12:30:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-10 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| Surr: 4-Bromofluorobenzene | 87.5 | 75.7-122 | | %REC | 1 | 11/8/2011 9:58:00 PM |
| Surr: Dibromofluoromethane | 102 | 64.3-124 | | %REC | 1 | 11/8/2011 9:58:00 PM |
| Surr: Toluene-d8 | 120 | 74.9-120 | S | %REC | 1 | 11/8/2011 9:58:00 PM |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-15-S-3.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 12:40:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-11 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-15-S-5.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 12:55:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-12 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-16-S-1.5 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 1:30:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-13 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | ND | 2.62 | | mg/Kg-dry | 1 | 11/3/2011 5:46:41 PM |
| Barium | 161 | 1.31 | | mg/Kg-dry | 1 | 11/3/2011 5:46:41 PM |
| Cadmium | 0.249 | 0.131 | | mg/Kg-dry | 1 | 11/3/2011 5:46:41 PM |
| Chromium | 20.6 | 0.655 | | mg/Kg-dry | 1 | 11/3/2011 5:46:41 PM |
| Lead | 259 | 2.62 | | mg/Kg-dry | 1 | 11/3/2011 5:46:41 PM |
| Selenium | ND | 2.62 | | mg/Kg-dry | 1 | 11/3/2011 5:46:41 PM |
| Silver | ND | 2.25 | | mg/Kg-dry | 1 | 11/4/2011 1:12:26 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 1.12 | 0.158 | | mg/Kg-dry | 10 | 11/8/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| 2-Methylnaphthalene | 9.36 | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Acenaphthene | ND | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Acenaphthylene | 12.5 | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Anthracene | 17.9 | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Benz(a)anthracene | 27.3 | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Benzo(a)pyrene | 46.8 | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Benzo(b)fluoranthene | 70.2 | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Benzo(g,h,i)perylene | 43.7 | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Benzo(k)fluoranthene | 16.4 | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Chrysene | 23.4 | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Dibenz(a,h)anthracene | ND | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Fluoranthene | 42.1 | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Fluorene | ND | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Indeno(1,2,3-cd)pyrene | 27.3 | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Naphthalene | 17.2 | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Phenanthrene | 25.0 | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Pyrene | 64.7 | 7.80 | | µg/Kg-dry | 1 | 11/10/2011 11:02:00 AM |
| Surr: 2-Fluorobiphenyl | 71.7 | 42.6-128 | | %REC | 1 | 11/10/2011 11:02:00 AM |
| Surr: Nitrobenzene-d5 | 75.2 | 21.7-155 | | %REC | 1 | 11/10/2011 11:02:00 AM |
| Surr: p-Terphenyl-d14 | 91.1 | 44.9-155 | | %REC | 1 | 11/10/2011 11:02:00 AM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.389 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1221 | ND | 0.389 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1232 | ND | 0.389 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1242 | ND | 0.389 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1248 | ND | 0.389 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1254 | 819 | 3.89 | | µg/Kg-dry | 10 | 11/8/2011 |
| Aroclor 1260 | 1050 | 3.89 | | µg/Kg-dry | 10 | 11/8/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-16-S-1.5 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 1:30:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-13 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1262 | ND | 0.389 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1268 | ND | 0.389 | | µg/Kg-dry | 1 | 11/4/2011 |
| Surr: Decachlorobiphenyl | 108 | 56.5-130 | | %REC | 1 | 11/4/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-16-S-4.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 1:45:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-14 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | ND | 2.16 | | mg/Kg-dry | 1 | 11/1/2011 5:15:25 PM |
| Barium | 283 | 1.08 | | mg/Kg-dry | 1 | 11/1/2011 5:15:25 PM |
| Cadmium | 0.119 | 0.108 | | mg/Kg-dry | 1 | 11/1/2011 5:15:25 PM |
| Chromium | 19.3 | 0.539 | | mg/Kg-dry | 1 | 11/1/2011 5:15:25 PM |
| Lead | 412 | 2.16 | | mg/Kg-dry | 1 | 11/1/2011 5:15:25 PM |
| Selenium | ND | 2.16 | | mg/Kg-dry | 1 | 11/1/2011 5:15:25 PM |
| Silver | 2.48 | 2.16 | | mg/Kg-dry | 1 | 11/1/2011 5:15:25 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 9.53 | 0.549 | | mg/Kg-dry | 50 | 10/31/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| 2-Methylnaphthalene | 9.17 | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| Acenaphthene | ND | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| Acenaphthylene | 12.5 | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| Anthracene | 19.2 | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| Benz(a)anthracene | 35.8 | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| Benzo(a)pyrene | 53.3 | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 12:14:00 PM |
| Benzo(b)fluoranthene | 61.7 | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 12:14:00 PM |
| Benzo(g,h,i)perylene | 65.8 | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| Benzo(k)fluoranthene | 22.5 | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| Chrysene | 35.8 | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| Dibenz(a,h)anthracene | 23.3 | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| Fluoranthene | 52.5 | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| Fluorene | ND | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| Indeno(1,2,3-cd)pyrene | 45.0 | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| Naphthalene | 18.3 | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| Phenanthrene | 30.8 | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| Pyrene | 74.2 | 8.34 | | µg/Kg-dry | 1 | 11/10/2011 10:56:00 AM |
| Surr: 2-Fluorobiphenyl | 62.8 | 42.6-128 | | %REC | 1 | 11/10/2011 10:56:00 AM |
| Surr: Nitrobenzene-d5 | 62.0 | 21.7-155 | | %REC | 1 | 11/10/2011 10:56:00 AM |
| Surr: p-Terphenyl-d14 | 72.7 | 44.9-155 | | %REC | 1 | 11/10/2011 10:56:00 AM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.416 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1221 | ND | 0.416 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1232 | ND | 0.416 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1242 | ND | 0.416 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1248 | ND | 0.416 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1254 | ND | 0.416 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1260 | 63.3 | 0.416 | | µg/Kg-dry | 1 | 10/31/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-16-S-4.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 1:45:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-14 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1262 | ND | 0.416 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1268 | ND | 0.416 | | µg/Kg-dry | 1 | 10/31/2011 |
| Surr: Decachlorobiphenyl | 81.3 | 56.5-130 | | %REC | 1 | 10/31/2011 |

# Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-16-S-10.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 2:25:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-15 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | ND | 2.41 | | mg/Kg-dry | 1 | 11/3/2011 5:51:41 PM |
| Barium | 110 | 1.20 | | mg/Kg-dry | 1 | 11/3/2011 5:51:41 PM |
| Cadmium | ND | 0.120 | | mg/Kg-dry | 1 | 11/3/2011 5:51:41 PM |
| Chromium | 16.2 | 0.602 | | mg/Kg-dry | 1 | 11/3/2011 5:51:41 PM |
| Lead | ND | 2.41 | | mg/Kg-dry | 1 | 11/3/2011 5:51:41 PM |
| Selenium | ND | 2.41 | | mg/Kg-dry | 1 | 11/3/2011 5:51:41 PM |
| Silver | ND | 2.41 | | mg/Kg-dry | 1 | 11/4/2011 1:17:24 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.0201 | 0.0181 | | mg/Kg-dry | 1 | 11/3/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| 2-Methylnaphthalene | 9.54 | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Acenaphthene | ND | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Acenaphthylene | ND | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Anthracene | ND | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Benz(a)anthracene | ND | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Benzo(a)pyrene | 12.1 | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Benzo(b)fluoranthene | 17.3 | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Benzo(g,h,i)perylene | 13.0 | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Benzo(k)fluoranthene | ND | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Chrysene | ND | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Dibenz(a,h)anthracene | ND | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Fluoranthene | ND | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Fluorene | ND | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Indeno(1,2,3-cd)pyrene | ND | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Naphthalene | ND | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Phenanthrene | ND | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Pyrene | 13.0 | 8.67 | | µg/Kg-dry | 1 | 11/10/2011 10:09:00 AM |
| Surr: 2-Fluorobiphenyl | 49.5 | 42.6-128 | | %REC | 1 | 11/10/2011 10:09:00 AM |
| Surr: Nitrobenzene-d5 | 55.1 | 21.7-155 | | %REC | 1 | 11/10/2011 10:09:00 AM |
| Surr: p-Terphenyl-d14 | 88.3 | 44.9-155 | | %REC | 1 | 11/10/2011 10:09:00 AM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.433 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1221 | ND | 0.433 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1232 | ND | 0.433 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1242 | ND | 0.433 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1248 | ND | 0.433 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1254 | ND | 0.433 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1260 | ND | 0.433 | | µg/Kg-dry | 1 | 11/4/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-16-S-10.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 2:25:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-15 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1262 | ND | 0.433 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1268 | ND | 0.433 | | µg/Kg-dry | 1 | 11/4/2011 |
| Surr: Decachlorobiphenyl | 78.5 | 56.5-130 | | %REC | 1 | 11/4/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-17-S-1.5 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 2:35:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-16 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | 2.80 | 2.08 | | mg/Kg-dry | 1 | 11/9/2011 11:23:33 AM |
| Barium | 195 | 1.04 | | mg/Kg-dry | 1 | 11/9/2011 11:23:33 AM |
| Cadmium | 0.270 | 0.104 | | mg/Kg-dry | 1 | 11/9/2011 11:23:33 AM |
| Chromium | 29.8 | 0.519 | | mg/Kg-dry | 1 | 11/9/2011 11:23:33 AM |
| Lead | 248 | 2.08 | | mg/Kg-dry | 1 | 11/9/2011 11:23:33 AM |
| Selenium | ND | 2.08 | | mg/Kg-dry | 1 | 11/9/2011 11:23:33 AM |
| Silver | ND | 2.08 | | mg/Kg-dry | 1 | 11/9/2011 11:23:33 AM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.842 | 0.0185 | | mg/Kg-dry | 1 | 11/8/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 15.8 | Q | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| 2-Methylnaphthalene | 22.1 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Acenaphthene | 23.7 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Acenaphthylene | 22.1 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Anthracene | 39.4 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Benz(a)anthracene | 53.6 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Benzo(a)pyrene | 50.5 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Benzo(b)fluoranthene | 86.8 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Benzo(g,h,i)perylene | 52.1 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Benzo(k)fluoranthene | 28.4 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Chrysene | 55.2 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Dibenz(a,h)anthracene | 22.1 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Fluoranthene | 155 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Fluorene | ND | 15.8 | Q | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Indeno(1,2,3-cd)pyrene | 33.1 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Naphthalene | 26.8 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Phenanthrene | 55.2 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Pyrene | 216 | 15.8 | | µg/Kg-dry | 2 | 11/9/2011 2:49:00 PM |
| Surr: 2-Fluorobiphenyl | 67.8 | 42.6-128 | | %REC | 2 | 11/9/2011 2:49:00 PM |
| Surr: Nitrobenzene-d5 | 63.1 | 21.7-155 | | %REC | 2 | 11/9/2011 2:49:00 PM |
| Surr: p-Terphenyl-d14 | 84.3 | 44.9-155 | | %REC | 2 | 11/9/2011 2:49:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.394 | | µg/Kg-dry | 1 | 11/7/2011 |
| Aroclor 1221 | ND | 0.394 | | µg/Kg-dry | 1 | 11/7/2011 |
| Aroclor 1232 | ND | 0.394 | | µg/Kg-dry | 1 | 11/7/2011 |
| Aroclor 1242 | ND | 0.394 | | µg/Kg-dry | 1 | 11/7/2011 |
| Aroclor 1248 | ND | 0.394 | | µg/Kg-dry | 1 | 11/7/2011 |
| Aroclor 1254 | 142 | 0.394 | | µg/Kg-dry | 1 | 11/7/2011 |
| Aroclor 1260 | 210 | 0.394 | | µg/Kg-dry | 1 | 11/7/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-17-S-1.5 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 2:35:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-16 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1262 | ND | 0.394 | | µg/Kg-dry | 1 | 11/7/2011 |
| Aroclor 1268 | ND | 0.394 | | µg/Kg-dry | 1 | 11/7/2011 |
| Surr: Decachlorobiphenyl | 62.9 | 56.5-130 | | %REC | 1 | 11/7/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-17-S-4.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 3:05:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-17 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | 3.53 | 2.30 | | mg/Kg-dry | 1 | 11/1/2011 5:20:23 PM |
| Barium | 280 | 1.15 | | mg/Kg-dry | 1 | 11/1/2011 5:20:23 PM |
| Cadmium | 0.298 | 0.115 | | mg/Kg-dry | 1 | 11/1/2011 5:20:23 PM |
| Chromium | 30.9 | 0.574 | | mg/Kg-dry | 1 | 11/1/2011 5:20:23 PM |
| Lead | 438 | 2.30 | | mg/Kg-dry | 1 | 11/1/2011 5:20:23 PM |
| Selenium | ND | 2.30 | | mg/Kg-dry | 1 | 11/1/2011 5:20:23 PM |
| Silver | 2.33 | 2.30 | | mg/Kg-dry | 1 | 11/1/2011 5:20:23 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.940 | 0.0565 | | mg/Kg-dry | 5 | 10/31/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | 23.1 | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| 2-Methylnaphthalene | ND | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Acenaphthene | 94.3 | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Acenaphthylene | 27.4 | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Anthracene | 51.4 | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Benz(a)anthracene | 93.4 | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Benzo(a)pyrene | 60.8 | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Benzo(b)fluoranthene | 78.0 | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Benzo(g,h,i)perylene | ND | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Benzo(k)fluoranthene | 77.1 | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Chrysene | 133 | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Dibenz(a,h)anthracene | ND | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Fluoranthene | 214 | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Fluorene | 24.9 | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Indeno(1,2,3-cd)pyrene | ND | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Naphthalene | 34.3 | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Phenanthrene | 85.7 | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Pyrene | 171 | 8.57 | | µg/Kg-dry | 1 | 11/4/2011 6:01:00 PM |
| Surr: 2-Fluorobiphenyl | 51.7 | 42.6-128 | | %REC | 1 | 11/4/2011 6:01:00 PM |
| Surr: Nitrobenzene-d5 | 43.1 | 21.7-155 | | %REC | 1 | 11/4/2011 6:01:00 PM |
| Surr: p-Terphenyl-d14 | 55.8 | 44.9-155 | | %REC | 1 | 11/4/2011 6:01:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.428 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1221 | ND | 0.428 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1232 | ND | 0.428 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1242 | ND | 0.428 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1248 | ND | 0.428 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1254 | ND | 0.428 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1260 | 763 | 4.28 | | µg/Kg-dry | 10 | 11/1/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-17-S-4.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 3:05:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-17 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1262 | ND | 0.428 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1268 | ND | 0.428 | | µg/Kg-dry | 1 | 10/31/2011 |
| Surr: Decachlorobiphenyl | 92.4 | 56.5-130 | | %REC | 1 | 10/31/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-17-S-10.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 3:23:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-18 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | 3.37 | 2.36 | | mg/Kg-dry | 1 | 11/3/2011 5:56:43 PM |
| Barium | 105 | 1.18 | | mg/Kg-dry | 1 | 11/3/2011 5:56:43 PM |
| Cadmium | ND | 0.118 | | mg/Kg-dry | 1 | 11/3/2011 5:56:43 PM |
| Chromium | 14.5 | 0.589 | | mg/Kg-dry | 1 | 11/3/2011 5:56:43 PM |
| Lead | ND | 2.36 | | mg/Kg-dry | 1 | 11/3/2011 5:56:43 PM |
| Selenium | ND | 2.36 | | mg/Kg-dry | 1 | 11/3/2011 5:56:43 PM |
| Silver | ND | 2.36 | | mg/Kg-dry | 1 | 11/4/2011 1:22:23 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | ND | 0.0192 | | mg/Kg-dry | 1 | 11/8/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| 2-Methylnaphthalene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Acenaphthene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Acenaphthylene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Anthracene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Benz(a)anthracene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Benzo(a)pyrene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Benzo(b)fluoranthene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Benzo(g,h,i)perylene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Benzo(k)fluoranthene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Chrysene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Dibenz(a,h)anthracene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Fluoranthene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Fluorene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Indeno(1,2,3-cd)pyrene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Naphthalene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Phenanthrene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Pyrene | ND | 8.17 | | µg/Kg-dry | 1 | 11/10/2011 9:16:00 AM |
| Surr: 2-Fluorobiphenyl | 42.0 | 42.6-128 | S | %REC | 1 | 11/10/2011 9:16:00 AM |
| Surr: Nitrobenzene-d5 | 42.8 | 21.7-155 | | %REC | 1 | 11/10/2011 9:16:00 AM |
| Surr: p-Terphenyl-d14 | 67.9 | 44.9-155 | | %REC | 1 | 11/10/2011 9:16:00 AM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.408 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1221 | ND | 0.408 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1232 | ND | 0.408 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1242 | ND | 0.408 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1248 | ND | 0.408 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1254 | ND | 0.408 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1260 | ND | 0.408 | | µg/Kg-dry | 1 | 11/4/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-17-S-10.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 3:23:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-18 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1262 | ND | 0.408 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1268 | ND | 0.408 | | µg/Kg-dry | 1 | 11/4/2011 |
| Surr: Decachlorobiphenyl | 132 | 56.5-130 | S | %REC | 1 | 11/4/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-18-S-1.5 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 3:25:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-19 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-18-S-4.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 3:55:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-20 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | 4.28 | 2.58 | | mg/Kg-dry | 1 | 11/1/2011 5:25:22 PM |
| Barium | 205 | 1.29 | | mg/Kg-dry | 1 | 11/1/2011 5:25:22 PM |
| Cadmium | ND | 0.129 | | mg/Kg-dry | 1 | 11/1/2011 5:25:22 PM |
| Chromium | 24.1 | 0.646 | | mg/Kg-dry | 1 | 11/1/2011 5:25:22 PM |
| Lead | 66.2 | 2.58 | | mg/Kg-dry | 1 | 11/1/2011 5:25:22 PM |
| Selenium | ND | 2.58 | | mg/Kg-dry | 1 | 11/1/2011 5:25:22 PM |
| Silver | ND | 2.58 | | mg/Kg-dry | 1 | 11/1/2011 5:25:22 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **eh** |
| Mercury | 0.885 | 0.0765 | | mg/Kg-dry | 5 | 10/31/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| 2-Methylnaphthalene | ND | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Acenaphthene | 13.4 | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Acenaphthylene | ND | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Anthracene | 13.4 | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Benz(a)anthracene | 36.7 | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Benzo(a)pyrene | 32.3 | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Benzo(b)fluoranthene | 48.4 | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Benzo(g,h,i)perylene | 27.8 | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Benzo(k)fluoranthene | 15.2 | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Chrysene | 30.5 | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Dibenz(a,h)anthracene | ND | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Fluoranthene | 92.3 | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Fluorene | ND | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Indeno(1,2,3-cd)pyrene | 19.7 | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Naphthalene | ND | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Phenanthrene | 34.1 | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Pyrene | 89.6 | 8.97 | | µg/Kg-dry | 1 | 11/9/2011 6:08:00 PM |
| Surr: 2-Fluorobiphenyl | 38.1 | 42.6-128 | S,MI | %REC | 1 | 11/9/2011 6:08:00 PM |
| Surr: Nitrobenzene-d5 | 44.7 | 21.7-155 | | %REC | 1 | 11/9/2011 6:08:00 PM |
| Surr: p-Terphenyl-d14 | 46.3 | 44.9-155 | | %REC | 1 | 11/9/2011 6:08:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.448 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1221 | ND | 0.448 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1232 | ND | 0.448 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1242 | ND | 0.448 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1248 | ND | 0.448 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1254 | ND | 0.448 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1260 | 71.7 | 0.448 | | µg/Kg-dry | 1 | 10/31/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-18-S-4.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 3:55:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-20 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1262 | ND | 0.448 | | µg/Kg-dry | 1 | 10/31/2011 |
| Aroclor 1268 | ND | 0.448 | | µg/Kg-dry | 1 | 10/31/2011 |
| Surr: Decachlorobiphenyl | 118 | 56.5-130 | | %REC | 1 | 10/31/2011 |

## Specialty Analytical

**Date:** *10-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-18-S-10.0 |
| **Lab Order:** | 1110243 | **Collection Date:** | 10/27/2011 4:05:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110243-21 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **MBLK-29857** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **10/31/2011** | Run ID: **TJA IRIS_111101C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29857** | TestNo: **E6010** | | Analysis Date: **11/1/2011** | SeqNo: **790174** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 2.00 | | | | | | | | | |
| Barium | ND | 1.00 | | | | | | | | | |
| Cadmium | ND | 0.100 | | | | | | | | | |
| Chromium | ND | 0.500 | | | | | | | | | |
| Lead | ND | 2.00 | | | | | | | | | |
| Selenium | ND | 2.00 | | | | | | | | | |
| Silver | ND | 2.00 | | | | | | | | | |

| Sample ID: **MBLK-29879** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/2/2011** | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/3/2011** | SeqNo: **790852** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 2.00 | | | | | | | | | |
| Barium | ND | 1.00 | | | | | | | | | |
| Cadmium | ND | 0.100 | | | | | | | | | |
| Chromium | ND | 0.500 | | | | | | | | | |
| Lead | ND | 2.00 | | | | | | | | | |
| Selenium | ND | 2.00 | | | | | | | | | |

| Sample ID: **MBLK-29879** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/2/2011** | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/4/2011** | SeqNo: **791090** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | ND | 2.00 | | | | | | | | | |

| Sample ID: **MBLK-29919** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/8/2011** | Run ID: **TJA IRIS_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29919** | TestNo: **E6010** | | Analysis Date: **11/9/2011** | SeqNo: **792120** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **MBLK-29919** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/8/2011** | Run ID: **TJA IRIS_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29919** | TestNo: **E6010** | | Analysis Date: **11/9/2011** | SeqNo: **792120** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 2.00 | | | | | | | | | |
| Barium | ND | 1.00 | | | | | | | | | |
| Cadmium | ND | 0.100 | | | | | | | | | |
| Chromium | ND | 0.500 | | | | | | | | | |
| Lead | ND | 2.00 | | | | | | | | | |
| Selenium | ND | 2.00 | | | | | | | | | |
| Silver | ND | 2.00 | | | | | | | | | |

| Sample ID: **LCS-29857** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **10/31/2011** | Run ID: **TJA IRIS_111101C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29857** | TestNo: **E6010** | | Analysis Date: **11/1/2011** | SeqNo: **790175** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.12 | 2.00 | 100 | 0 | 96.1 | 85.1 | 107 | 0 | 0 | | |
| Barium | 50.21 | 1.00 | 50 | 0 | 100 | 85.7 | 110 | 0 | 0 | | |
| Cadmium | 4.92 | 0.100 | 5 | 0 | 98.4 | 87.2 | 109 | 0 | 0 | | |
| Chromium | 25.55 | 0.500 | 25 | 0 | 102 | 84 | 113 | 0 | 0 | | |
| Lead | 99.65 | 2.00 | 100 | 0 | 99.6 | 84.9 | 109 | 0 | 0 | | |
| Selenium | 96.42 | 2.00 | 100 | 0 | 96.4 | 88.7 | 111 | 0 | 0 | | |
| Silver | 43.37 | 2.00 | 50 | 0 | 86.7 | 79.3 | 109 | 0 | 0 | | |

| Sample ID: **LCS-29879** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/2/2011** | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/3/2011** | SeqNo: **790854** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.6 | 2.00 | 100 | 0 | 96.6 | 85.1 | 107 | 0 | 0 | | |
| Barium | 50.18 | 1.00 | 50 | 0 | 100 | 85.7 | 110 | 0 | 0 | | |
| Cadmium | 4.92 | 0.100 | 5 | 0 | 98.4 | 87.2 | 109 | 0 | 0 | | |
| Chromium | 25.46 | 0.500 | 25 | 0 | 102 | 84 | 113 | 0 | 0 | | |
| Lead | 99.77 | 2.00 | 100 | 0 | 99.8 | 84.9 | 109 | 0 | 0 | | |
| Selenium | 96.2 | 2.00 | 100 | 0 | 96.2 | 88.7 | 111 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **LCS-29879** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/2/2011** | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/4/2011** | SeqNo: **791091** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 49.28 | 2.00 | 50 | 0 | 98.6 | 79.3 | 109 | 0 | 0 | | |

| Sample ID: **LCS-29919** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/8/2011** | Run ID: **TJA IRIS_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29919** | TestNo: **E6010** | | Analysis Date: **11/9/2011** | SeqNo: **792121** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 104.8 | 2.00 | 100 | 0 | 105 | 85.1 | 107 | 0 | 0 | | |
| Barium | 52.47 | 1.00 | 50 | 0 | 105 | 85.7 | 110 | 0 | 0 | | |
| Cadmium | 5.19 | 0.100 | 5 | 0 | 104 | 87.2 | 109 | 0 | 0 | | |
| Chromium | 27.12 | 0.500 | 25 | 0 | 108 | 84 | 113 | 0 | 0 | | |
| Lead | 106.7 | 2.00 | 100 | 0 | 107 | 84.9 | 109 | 0 | 0 | | |
| Selenium | 102.3 | 2.00 | 100 | 0 | 102 | 88.7 | 111 | 0 | 0 | | |
| Silver | 44.96 | 2.00 | 50 | 0 | 89.9 | 79.3 | 109 | 0 | 0 | | |

| Sample ID: **1110243-01AMS** | SampType: **MS** | TestCode: **6010_S** | Units: **mg/Kg-dry** | Prep Date: **10/31/2011** | Run ID: **TJA IRIS_111101C** |
|---|---|---|---|---|---|
| Client ID: **TP-12-S-1.0** | Batch ID: **29857** | TestNo: **E6010** | | Analysis Date: **11/1/2011** | SeqNo: **790189** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 101.1 | 2.30 | 115.2 | 2.835 | 85.3 | 86.1 | 109 | 0 | 0 | | S,RP |
| Barium | 246.5 | 1.15 | 57.62 | 202 | 77.2 | 75 | 125 | 0 | 0 | | |
| Cadmium | 4.99 | 0.115 | 5.762 | 0 | 86.6 | 86.4 | 113 | 0 | 0 | | |
| Chromium | 44.33 | 0.576 | 28.81 | 20.05 | 84.2 | 75 | 121 | 0 | 0 | | |
| Lead | 104.7 | 2.30 | 115.2 | 7.411 | 84.5 | 84.9 | 109 | 0 | 0 | | S,RP |
| Selenium | 94.23 | 2.30 | 115.2 | 0 | 81.8 | 77.7 | 116 | 0 | 0 | | |
| Silver | 52.96 | 2.30 | 57.62 | 1.867 | 88.7 | 75 | 123 | 0 | 0 | | |

| Sample ID: **1111006-02AMS** | SampType: **MS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/2/2011** | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/3/2011** | SeqNo: **790859** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 86.83 | 1.85 | 92.59 | 0.9818 | 92.7 | 86.1 | 109 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **1111006-02AMS** | SampType: **MS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/2/2011** | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/3/2011** | SeqNo: **790859** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Barium | 46.45 | 0.926 | 46.3 | 2.1 | 95.8 | 75 | 125 | 0 | 0 | | |
| Cadmium | 4.333 | 0.0926 | 4.63 | 0 | 93.6 | 86.4 | 113 | 0 | 0 | | |
| Chromium | 33.92 | 0.463 | 23.15 | 5.636 | 122 | 75 | 121 | 0 | 0 | | S,RP |
| Lead | 86.74 | 1.85 | 92.59 | 0 | 93.7 | 84.9 | 109 | 0 | 0 | | |
| Selenium | 85.05 | 1.85 | 92.59 | 1.027 | 90.7 | 77.7 | 116 | 0 | 0 | | |

| Sample ID: **1111006-02AMS** | SampType: **MS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/2/2011** | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/4/2011** | SeqNo: **791095** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 43.02 | 1.85 | 46.3 | 0 | 92.9 | 75 | 123 | 0 | 0 | | |

| Sample ID: **1110243-16AMS** | SampType: **MS** | TestCode: **6010_S** | Units: **mg/Kg-dry** | Prep Date: **11/8/2011** | Run ID: **TJA IRIS_111109A** |
|---|---|---|---|---|---|
| Client ID: **TP-17-S-1.5** | Batch ID: **29919** | TestNo: **E6010** | | Analysis Date: **11/9/2011** | SeqNo: **792124** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 103.5 | 2.19 | 109.6 | 2.803 | 91.9 | 86.1 | 109 | 0 | 0 | | |
| Barium | 242.3 | 1.10 | 54.79 | 195.4 | 85.6 | 75 | 125 | 0 | 0 | | |
| Cadmium | 5.577 | 0.110 | 5.479 | 0.2699 | 96.9 | 86.4 | 113 | 0 | 0 | | |
| Chromium | 54.35 | 0.548 | 27.39 | 29.8 | 89.6 | 75 | 121 | 0 | 0 | | |
| Lead | 381.4 | 2.19 | 109.6 | 247.6 | 122 | 84.9 | 109 | 0 | 0 | | S |
| Selenium | 90.61 | 2.19 | 109.6 | 0 | 82.7 | 77.7 | 116 | 0 | 0 | | |
| Silver | 54.05 | 2.19 | 54.79 | 1.786 | 95.4 | 75 | 123 | 0 | 0 | | |

| Sample ID: **1110243-01AMSD** | SampType: **MSD** | TestCode: **6010_S** | Units: **mg/Kg-dry** | Prep Date: **10/31/2011** | Run ID: **TJA IRIS_111101C** |
|---|---|---|---|---|---|
| Client ID: **TP-12-S-1.0** | Batch ID: **29857** | TestNo: **E6010** | | Analysis Date: **11/1/2011** | SeqNo: **790191** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 94.23 | 2.30 | 115.2 | 2.835 | 79.3 | 86.1 | 109 | 101.1 | 7.04 | 20 | S,RP |
| Barium | 233.5 | 1.15 | 57.62 | 202 | 54.6 | 75 | 125 | 246.5 | 5.43 | 20 | S,RP |
| Cadmium | 4.564 | 0.115 | 5.762 | 0 | 79.2 | 86.4 | 113 | 4.99 | 8.93 | 20 | S,RP |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **1110243-01AMSD** | SampType: **MSD** | TestCode: **6010_S** | Units: **mg/Kg-dry** | Prep Date: **10/31/2011** | Run ID: **TJA IRIS_111101C** |
|---|---|---|---|---|---|
| Client ID: **TP-12-S-1.0** | Batch ID: **29857** | TestNo: **E6010** | | Analysis Date: **11/1/2011** | SeqNo: **790191** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chromium | 41.16 | 0.576 | 28.81 | 20.05 | 73.2 | 75 | 121 | 44.33 | 7.42 | 20 | S,RP |
| Lead | 98.63 | 2.30 | 115.2 | 7.411 | 79.2 | 84.9 | 109 | 104.7 | 6.01 | 20 | S,RP |
| Selenium | 88.89 | 2.30 | 115.2 | 0 | 77.1 | 77.7 | 116 | 94.23 | 5.83 | 20 | S,RP |
| Silver | 50.86 | 2.30 | 57.62 | 1.867 | 85 | 75 | 123 | 52.96 | 4.04 | 20 | |

| Sample ID: **1111006-02AMSD** | SampType: **MSD** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/2/2011** | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/3/2011** | SeqNo: **790860** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 89.05 | 1.82 | 90.91 | 0.9818 | 96.9 | 86.1 | 109 | 86.83 | 2.53 | 20 | |
| Barium | 48.62 | 0.909 | 45.45 | 2.1 | 102 | 75 | 125 | 46.45 | 4.55 | 20 | |
| Cadmium | 4.509 | 0.0909 | 4.545 | 0 | 99.2 | 86.4 | 113 | 4.333 | 3.98 | 20 | |
| Chromium | 35.05 | 0.455 | 22.73 | 5.636 | 129 | 75 | 121 | 33.92 | 3.27 | 20 | S,RP |
| Lead | 90.57 | 1.82 | 90.91 | 0 | 99.6 | 84.9 | 109 | 86.74 | 4.32 | 20 | |
| Selenium | 89.24 | 1.82 | 90.91 | 1.027 | 97 | 77.7 | 116 | 85.05 | 4.81 | 20 | |

| Sample ID: **1111006-02AMSD** | SampType: **MSD** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/2/2011** | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/4/2011** | SeqNo: **791096** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 44.72 | 1.82 | 45.45 | 0 | 98.4 | 75 | 123 | 43.02 | 3.87 | 20 | |

| Sample ID: **1110243-16AMSD** | SampType: **MSD** | TestCode: **6010_S** | Units: **mg/Kg-dry** | Prep Date: **11/8/2011** | Run ID: **TJA IRIS_111109A** |
|---|---|---|---|---|---|
| Client ID: **TP-17-S-1.5** | Batch ID: **29919** | TestNo: **E6010** | | Analysis Date: **11/9/2011** | SeqNo: **792125** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 97.66 | 2.11 | 105.7 | 2.803 | 89.8 | 86.1 | 109 | 103.5 | 5.77 | 20 | |
| Barium | 262.6 | 1.06 | 52.83 | 195.4 | 127 | 75 | 125 | 242.3 | 8.04 | 20 | S,MC |
| Cadmium | 5.357 | 0.106 | 5.283 | 0.2699 | 96.3 | 86.4 | 113 | 5.577 | 4.03 | 20 | |
| Chromium | 55.19 | 0.528 | 26.42 | 29.8 | 96.1 | 75 | 121 | 54.35 | 1.53 | 20 | |
| Lead | 436.1 | 2.11 | 105.7 | 247.6 | 178 | 84.9 | 109 | 381.4 | 13.4 | 20 | S,MC |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **1110243-16AMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **11/8/2011** Run ID: **TJA IRIS_111109A**
Client ID: **TP-17-S-1.5** Batch ID: **29919** TestNo: **E6010** Analysis Date: **11/9/2011** SeqNo: **792125**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Selenium | 86.53 | 2.11 | 105.7 | 0 | 81.9 | 77.7 | 116 | 90.61 | 4.61 | 20 | |
| Silver | 51.85 | 2.11 | 52.83 | 1.786 | 94.8 | 75 | 123 | 54.05 | 4.16 | 20 | |

Sample ID: **1110243-01ADUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **10/31/2011** Run ID: **TJA IRIS_111101C**
Client ID: **TP-12-S-1.0** Batch ID: **29857** TestNo: **E6010** Analysis Date: **11/1/2011** SeqNo: **790188**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3.4 | 2.30 | 0 | 0 | 0 | 0 | 0 | 2.835 | 18.1 | 20 | |
| Barium | 204.2 | 1.15 | 0 | 0 | 0 | 0 | 0 | 202 | 1.08 | 20 | |
| Cadmium | ND | 0.115 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Chromium | 20 | 0.576 | 0 | 0 | 0 | 0 | 0 | 20.05 | 0.288 | 20 | |
| Lead | 7.445 | 2.30 | 0 | 0 | 0 | 0 | 0 | 7.411 | 0.465 | 20 | |
| Selenium | ND | 2.30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Silver | 1.66 | 2.30 | 0 | 0 | 0 | 0 | 0 | 1.867 | 0 | 20 | J |

Sample ID: **1111006-02ADUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **11/2/2011** Run ID: **TJA IRIS_111103E**
Client ID: **ZZZZZ** Batch ID: **29879** TestNo: **E6010** Analysis Date: **11/3/2011** SeqNo: **790857**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 1.82 | 0 | 0 | 0 | 0 | 0 | 0.9818 | 0 | 20 | |
| Barium | 2.609 | 0.909 | 0 | 0 | 0 | 0 | 0 | 2.1 | 21.6 | 20 | R |
| Cadmium | ND | 0.0909 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Chromium | 5.8 | 0.455 | 0 | 0 | 0 | 0 | 0 | 5.636 | 2.86 | 20 | |
| Lead | ND | 1.82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Selenium | ND | 1.82 | 0 | 0 | 0 | 0 | 0 | 1.027 | 0 | 20 | |

Sample ID: **1111006-02ADUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **11/2/2011** Run ID: **TJA IRIS_111103E**
Client ID: **ZZZZZ** Batch ID: **29879** TestNo: **E6010** Analysis Date: **11/4/2011** SeqNo: **791094**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | ND | 1.82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **1110243-16ADUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **11/8/2011** Run ID: **TJA IRIS_111109A**
Client ID: **TP-17-S-1.5** Batch ID: **29919** TestNo: **E6010** Analysis Date: **11/9/2011** SeqNo: **792123**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3.381 | 2.11 | 0 | 0 | 0 | 0 | 0 | 2.803 | 18.7 | 20 | |
| Barium | 175.9 | 1.06 | 0 | 0 | 0 | 0 | 0 | 195.4 | 10.5 | 20 | |
| Cadmium | 0.2747 | 0.106 | 0 | 0 | 0 | 0 | 0 | 0.2699 | 1.77 | 20 | |
| Chromium | 22.96 | 0.528 | 0 | 0 | 0 | 0 | 0 | 29.8 | 25.9 | 20 | R |
| Lead | 266.7 | 2.11 | 0 | 0 | 0 | 0 | 0 | 247.6 | 7.43 | 20 | |
| Selenium | ND | 2.11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Silver | 1.733 | 2.11 | 0 | 0 | 0 | 0 | 0 | 1.786 | 0 | 20 | J |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_111101C**
Client ID: **ZZZZZ** Batch ID: **29857** TestNo: **E6010** Analysis Date: **11/1/2011** SeqNo: **790173**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 95.78 | 2.00 | 100 | 0 | 95.8 | 90 | 110 | 0 | 0 | | |
| Barium | 48.42 | 1.00 | 50 | 0 | 96.8 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.82 | 0.100 | 5 | 0 | 96.4 | 90 | 110 | 0 | 0 | | |
| Chromium | 24.07 | 0.500 | 25 | 0 | 96.3 | 90 | 110 | 0 | 0 | | |
| Lead | 97.21 | 2.00 | 100 | 0 | 97.2 | 90 | 110 | 0 | 0 | | |
| Selenium | 95.74 | 2.00 | 100 | 0 | 95.7 | 90 | 110 | 0 | 0 | | |
| Silver | 48.37 | 2.00 | 50 | 0 | 96.7 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_111101C**
Client ID: **ZZZZZ** Batch ID: **29857** TestNo: **E6010** Analysis Date: **11/1/2011** SeqNo: **790180**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 94.57 | 2.00 | 100 | 0 | 94.6 | 90 | 110 | 0 | 0 | | |
| Barium | 47.87 | 1.00 | 50 | 0 | 95.7 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.71 | 0.100 | 5 | 0 | 94.2 | 90 | 110 | 0 | 0 | | |
| Chromium | 23.74 | 0.500 | 25 | 0 | 95 | 90 | 110 | 0 | 0 | | |
| Lead | 94.47 | 2.00 | 100 | 0 | 94.5 | 90 | 110 | 0 | 0 | | |
| Selenium | 92.29 | 2.00 | 100 | 0 | 92.3 | 90 | 110 | 0 | 0 | | |
| Silver | 46.96 | 2.00 | 50 | 0 | 93.9 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_111101C**
Client ID: **ZZZZZ** Batch ID: **29857** TestNo: **E6010** Analysis Date: **11/1/2011** SeqNo: **790190**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.64 | 2.00 | 100 | 0 | 96.6 | 90 | 110 | 0 | 0 | | |
| Barium | 48.31 | 1.00 | 50 | 0 | 96.6 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.81 | 0.100 | 5 | 0 | 96.2 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.1 | 0.500 | 25 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Lead | 98.01 | 2.00 | 100 | 0 | 98 | 90 | 110 | 0 | 0 | | |
| Selenium | 94.3 | 2.00 | 100 | 0 | 94.3 | 90 | 110 | 0 | 0 | | |
| Silver | 49.88 | 2.00 | 50 | 0 | 99.8 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_111101C**
Client ID: **ZZZZZ** Batch ID: **29857** TestNo: **E6010** Analysis Date: **11/1/2011** SeqNo: **790200**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 97 | 2.00 | 100 | 0 | 97 | 90 | 110 | 0 | 0 | | |
| Barium | 49.4 | 1.00 | 50 | 0 | 98.8 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.85 | 0.100 | 5 | 0 | 97 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.27 | 0.500 | 25 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Lead | 98.03 | 2.00 | 100 | 0 | 98 | 90 | 110 | 0 | 0 | | |
| Selenium | 95.53 | 2.00 | 100 | 0 | 95.5 | 90 | 110 | 0 | 0 | | |
| Silver | 48.58 | 2.00 | 50 | 0 | 97.2 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_111103E**
Client ID: **ZZZZZ** Batch ID: **29879** TestNo: **E6010** Analysis Date: **11/3/2011** SeqNo: **790850**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.91 | 2.00 | 100 | 0 | 96.9 | 90 | 110 | 0 | 0 | | |
| Barium | 48.08 | 1.00 | 50 | 0 | 96.2 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.84 | 0.100 | 5 | 0 | 96.8 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.24 | 0.500 | 25 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Lead | 98.37 | 2.00 | 100 | 0 | 98.4 | 90 | 110 | 0 | 0 | | |
| Selenium | 93.94 | 2.00 | 100 | 0 | 93.9 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/3/2011** | SeqNo: **790865** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 97 | 2.00 | 100 | 0 | 97 | 90 | 110 | 0 | 0 | | |
| Barium | 49.63 | 1.00 | 50 | 0 | 99.3 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.95 | 0.100 | 5 | 0 | 99 | 90 | 110 | 0 | 0 | | |
| Chromium | 24.56 | 0.500 | 25 | 0 | 98.2 | 90 | 110 | 0 | 0 | | |
| Lead | 99.03 | 2.00 | 100 | 0 | 99 | 90 | 110 | 0 | 0 | | |
| Selenium | 97.01 | 2.00 | 100 | 0 | 97 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/3/2011** | SeqNo: **790877** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.35 | 2.00 | 100 | 0 | 96.4 | 90 | 110 | 0 | 0 | | |
| Barium | 50.96 | 1.00 | 50 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Cadmium | 5.03 | 0.100 | 5 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.43 | 0.500 | 25 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Lead | 99.99 | 2.00 | 100 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Selenium | 98.36 | 2.00 | 100 | 0 | 98.4 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/4/2011** | SeqNo: **791092** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 47.9 | 2.00 | 50 | 0 | 95.8 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/4/2011** | SeqNo: **791101** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 48 | 2.00 | 50 | 0 | 96 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/4/2011** | SeqNo: **791107** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 48.93 | 2.00 | 50 | 0 | 97.9 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29919** | TestNo: **E6010** | | Analysis Date: **11/9/2011** | SeqNo: **792128** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 98.54 | 2.00 | 100 | 0 | 98.5 | 90 | 110 | 0 | 0 | | |
| Barium | 49.6 | 1.00 | 50 | 0 | 99.2 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.88 | 0.100 | 5 | 0 | 97.6 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.6 | 0.500 | 25 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Lead | 100 | 2.00 | 100 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Selenium | 96.99 | 2.00 | 100 | 0 | 97 | 90 | 110 | 0 | 0 | | |
| Silver | 46.32 | 2.00 | 50 | 0 | 92.6 | 90 | 110 | 0 | 0 | | |

| Sample ID: **ICV** | SampType: **ICV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111101C** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29857** | TestNo: **E6010** | | Analysis Date: **11/1/2011** | SeqNo: **790172** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 98.15 | 2.00 | 100 | 0 | 98.2 | 90 | 110 | 0 | 0 | | |
| Barium | 49.35 | 1.00 | 50 | 0 | 98.7 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.92 | 0.100 | 5 | 0 | 98.4 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.54 | 0.500 | 25 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Lead | 98.94 | 2.00 | 100 | 0 | 98.9 | 90 | 110 | 0 | 0 | | |
| Selenium | 96.19 | 2.00 | 100 | 0 | 96.2 | 90 | 110 | 0 | 0 | | |
| Silver | 48.85 | 2.00 | 50 | 0 | 97.7 | 90 | 110 | 0 | 0 | | |

| Sample ID: **ICV** | SampType: **ICV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/3/2011** | SeqNo: **790849** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.23 | 2.00 | 100 | 0 | 96.2 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **ICV** | SampType: **ICV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/3/2011** | SeqNo: **790849** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Barium | 48.71 | 1.00 | 50 | 0 | 97.4 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.85 | 0.100 | 5 | 0 | 97 | 90 | 110 | 0 | 0 | | |
| Chromium | 24.91 | 0.500 | 25 | 0 | 99.6 | 90 | 110 | 0 | 0 | | |
| Lead | 96.64 | 2.00 | 100 | 0 | 96.6 | 90 | 110 | 0 | 0 | | |
| Selenium | 95.33 | 2.00 | 100 | 0 | 95.3 | 90 | 110 | 0 | 0 | | |

| Sample ID: **ICV** | SampType: **ICV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/4/2011** | SeqNo: **791089** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 49.84 | 2.00 | 50 | 0 | 99.7 | 90 | 110 | 0 | 0 | | |

| Sample ID: **ICV** | SampType: **ICV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29919** | TestNo: **E6010** | | Analysis Date: **11/9/2011** | SeqNo: **792119** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 100.3 | 2.00 | 100 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Barium | 50.91 | 1.00 | 50 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.94 | 0.100 | 5 | 0 | 98.8 | 90 | 110 | 0 | 0 | | |
| Chromium | 26.06 | 0.500 | 25 | 0 | 104 | 90 | 110 | 0 | 0 | | |
| Lead | 102.5 | 2.00 | 100 | 0 | 103 | 90 | 110 | 0 | 0 | | |
| Selenium | 99.64 | 2.00 | 100 | 0 | 99.6 | 90 | 110 | 0 | 0 | | |
| Silver | 46.37 | 2.00 | 50 | 0 | 92.7 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **MB-29846** | SampType: **MBLK** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **10/28/2011** | Run ID: **GCK_111031A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29846** | TestNo: **SW8082** | | Analysis Date: **10/31/2011** | SeqNo: **789609** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016 | ND | 0.333 | | | | | | | | | |
| Aroclor 1221 | ND | 0.333 | | | | | | | | | |
| Aroclor 1232 | ND | 0.333 | | | | | | | | | |
| Aroclor 1242 | ND | 0.333 | | | | | | | | | |
| Aroclor 1248 | ND | 0.333 | | | | | | | | | |
| Aroclor 1254 | ND | 0.333 | | | | | | | | | |
| Aroclor 1260 | ND | 0.333 | | | | | | | | | |
| Aroclor 1262 | ND | 0.333 | | | | | | | | | |
| Aroclor 1268 | ND | 0.333 | | | | | | | | | |
| Surr: Decachlorobiphenyl | 7585 | 0 | 6667 | 0 | 114 | 56.5 | 130 | 0 | 0 | | |

| Sample ID: **MB-29889** | SampType: **MBLK** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **11/3/2011** | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/4/2011** | SeqNo: **791236** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016 | ND | 0.333 | | | | | | | | | |
| Aroclor 1221 | ND | 0.333 | | | | | | | | | |
| Aroclor 1232 | ND | 0.333 | | | | | | | | | |
| Aroclor 1242 | ND | 0.333 | | | | | | | | | |
| Aroclor 1248 | ND | 0.333 | | | | | | | | | |
| Aroclor 1254 | ND | 0.333 | | | | | | | | | |
| Aroclor 1260 | ND | 0.333 | | | | | | | | | |
| Aroclor 1262 | ND | 0.333 | | | | | | | | | |
| Aroclor 1268 | ND | 0.333 | | | | | | | | | |
| Surr: Decachlorobiphenyl | 6581 | 0 | 6667 | 0 | 98.7 | 56.5 | 130 | 0 | 0 | | |

| Sample ID: **MB-29913** | SampType: **MBLK** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **11/7/2011** | Run ID: **GCK_111107A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29913** | TestNo: **SW8082** | | Analysis Date: **11/7/2011** | SeqNo: **791637** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016 | ND | 0.333 | | | | | | | | | |

**Qualifiers:**
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **MB-29913** | SampType: **MBLK** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **11/7/2011** | Run ID: **GCK_111107A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29913** | TestNo: **SW8082** | | Analysis Date: **11/7/2011** | SeqNo: **791637** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1221 | ND | 0.333 | | | | | | | | | |
| Aroclor 1232 | ND | 0.333 | | | | | | | | | |
| Aroclor 1242 | ND | 0.333 | | | | | | | | | |
| Aroclor 1248 | ND | 0.333 | | | | | | | | | |
| Aroclor 1254 | ND | 0.333 | | | | | | | | | |
| Aroclor 1260 | ND | 0.333 | | | | | | | | | |
| Aroclor 1262 | ND | 0.333 | | | | | | | | | |
| Aroclor 1268 | ND | 0.333 | | | | | | | | | |
| Surr: Decachlorobiphenyl | 7595 | 0 | 6667 | 0 | 114 | 56.5 | 130 | 0 | 0 | | |

| Sample ID: **LCS-29846** | SampType: **LCS** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **10/28/2011** | Run ID: **GCK_111031A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29846** | TestNo: **SW8082** | | Analysis Date: **10/31/2011** | SeqNo: **789610** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 54 | 0.333 | 66.67 | 0 | 81 | 44.3 | 137 | 0 | 0 | | |

| Sample ID: **LCS-29889** | SampType: **LCS** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **11/3/2011** | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/4/2011** | SeqNo: **791238** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 60.67 | 0.333 | 66.67 | 0 | 91 | 44.3 | 137 | 0 | 0 | | |

| Sample ID: **LCS-29913** | SampType: **LCS** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **11/7/2011** | Run ID: **GCK_111107A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29913** | TestNo: **SW8082** | | Analysis Date: **11/7/2011** | SeqNo: **791638** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 60 | 0.333 | 66.67 | 0 | 90 | 44.3 | 137 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **1110221-01AMS** | SampType: **MS** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **10/28/2011** | Run ID: **GCK_111031A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29846** | TestNo: **SW8082** | | Analysis Date: **10/31/2011** | SeqNo: **789611** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 62 | 0.333 | 66.67 | 0 | 93 | 56.6 | 123 | 0 | 0 | | |

| Sample ID: **1110255-13AMS** | SampType: **MS** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **11/3/2011** | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/4/2011** | SeqNo: **791239** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 86.29 | 0.454 | 90.83 | 0 | 95 | 56.6 | 123 | 0 | 0 | | |

| Sample ID: **1110243-16AMS** | SampType: **MS** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **11/7/2011** | Run ID: **GCK_111107A** |
|---|---|---|---|---|---|
| Client ID: **TP-17-S-1.5** | Batch ID: **29913** | TestNo: **SW8082** | | Analysis Date: **11/7/2011** | SeqNo: **791639** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 116.7 | 0.333 | 66.67 | 0 | 175 | 56.6 | 123 | 0 | 0 | | S,MI |

| Sample ID: **1110221-01AMSD** | SampType: **MSD** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **10/28/2011** | Run ID: **GCK_111031A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29846** | TestNo: **SW8082** | | Analysis Date: **10/31/2011** | SeqNo: **789612** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 65.33 | 0.333 | 66.67 | 0 | 98 | 56.6 | 123 | 62 | 5.24 | 20 | |

| Sample ID: **1110255-13AMSD** | SampType: **MSD** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **11/3/2011** | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/4/2011** | SeqNo: **791242** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 79.02 | 0.454 | 90.83 | 0 | 87 | 56.6 | 123 | 86.29 | 8.79 | 20 | |

| Sample ID: **1110243-16AMSD** | SampType: **MSD** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **11/7/2011** | Run ID: **GCK_111107A** |
|---|---|---|---|---|---|
| Client ID: **TP-17-S-1.5** | Batch ID: **29913** | TestNo: **SW8082** | | Analysis Date: **11/7/2011** | SeqNo: **791640** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **1110243-16AMSD** | SampType: **MSD** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **11/7/2011** | Run ID: **GCK_111107A** |
|---|---|---|---|---|---|
| Client ID: **TP-17-S-1.5** | Batch ID: **29913** | TestNo: **SW8082** | | Analysis Date: **11/7/2011** | SeqNo: **791640** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 233.3 | 0.333 | 66.67 | 0 | 350 | 56.6 | 123 | 116.7 | 66.7 | 20 | SR,MI |

| Sample ID: **CCB** | SampType: **CCB** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111031A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29846** | TestNo: **SW8082** | | Analysis Date: **11/1/2011** | SeqNo: **789864** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1221 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1232 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1242 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1248 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1254 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1260 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1262 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1268 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: Decachlorobiphenyl | ND | 0 | 0 | 0 | 0 | 56.5 | 130 | 0 | 0 | | |

| Sample ID: **CCB** | SampType: **CCB** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/8/2011** | SeqNo: **791747** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1254 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1260 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111031A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29846** | TestNo: **SW8082** | | Analysis Date: **10/31/2011** | SeqNo: **789608** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 70 | 0.333 | 66.67 | 0 | 105 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111031A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29846** | TestNo: **SW8082** | | Analysis Date: **10/31/2011** | SeqNo: **789632** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 66 | 0.333 | 66.67 | 0 | 99 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 68.67 | 0.333 | 66.67 | 0 | 103 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111031A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29846** | TestNo: **SW8082** | | Analysis Date: **11/1/2011** | SeqNo: **789863** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111031A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29846** | TestNo: **SW8082** | | Analysis Date: **11/1/2011** | SeqNo: **789866** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1260 | 65.33 | 0.333 | 66.67 | 0 | 98 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/4/2011** | SeqNo: **791234** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 70.67 | 0.333 | 66.67 | 0 | 106 | 85 | 115 | 0 | 0 | | |
| Aroclor 1254 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/4/2011** | SeqNo: **791259** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |
| Aroclor 1254 | 62 | 0.333 | 66.67 | 0 | 93 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 72 | 0.333 | 66.67 | 0 | 108 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111107A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29913** | TestNo: **SW8082** | | Analysis Date: **11/7/2011** | SeqNo: **791636** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 72 | 0.333 | 66.67 | 0 | 108 | 85 | 115 | 0 | 0 | | |
| Aroclor 1254 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111107A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29913** | TestNo: **SW8082** | | Analysis Date: **11/7/2011** | SeqNo: **791642** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 60.67 | 0.333 | 66.67 | 0 | 91 | 85 | 115 | 0 | 0 | | |
| Aroclor 1254 | 57.33 | 0.333 | 66.67 | 0 | 86 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 65.33 | 0.333 | 66.67 | 0 | 98 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/8/2011** | SeqNo: **791746** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1254 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/8/2011** | SeqNo: **791750** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1254 | 65.33 | 0.333 | 66.67 | 0 | 98 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 74.67 | 0.333 | 66.67 | 0 | 112 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **MBLK-29933** SampType: **MBLK** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/5/2011** SeqNo: **791896**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | | | | | | | | | |
| 1,1,1-Trichloroethane | ND | 10.0 | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | | | | | | | | | |
| 1,1,2-Trichloroethane | ND | 10.0 | | | | | | | | | |
| 1,1-Dichloroethane | ND | 10.0 | | | | | | | | | |
| 1,1-Dichloroethene | ND | 10.0 | | | | | | | | | |
| 1,1-Dichloropropene | ND | 10.0 | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,2,3-Trichloropropane | ND | 10.0 | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 10.0 | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | | | | | | | | | |
| 1,2-Dibromoethane | ND | 10.0 | | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,2-Dichloroethane | ND | 10.0 | | | | | | | | | |
| 1,2-Dichloropropane | ND | 10.0 | | | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,3-Dichloropropane | ND | 10.0 | | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 10.0 | | | | | | | | | |
| 2,2-Dichloropropane | ND | 10.0 | | | | | | | | | |
| 2-Butanone | ND | 40.0 | | | | | | | | | |
| 2-Chlorotoluene | ND | 10.0 | | | | | | | | | |
| 2-Hexanone | ND | 20.0 | | | | | | | | | |
| 4-Chlorotoluene | ND | 10.0 | | | | | | | | | |
| 4-Isopropyltoluene | ND | 10.0 | | | | | | | | | |
| 4-Methyl-2-pentanone | ND | 40.0 | | | | | | | | | |
| Acetone | 9.71 | 100 | | | | | | | | | J |
| Benzene | ND | 10.0 | | | | | | | | | |
| Bromobenzene | ND | 10.0 | | | | | | | | | |
| Bromochloromethane | ND | 10.0 | | | | | | | | | |

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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **MBLK-29933** SampType: **MBLK** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/5/2011** SeqNo: **791896**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | ND | 10.0 | | | | | | | | | |
| Bromoform | ND | 10.0 | | | | | | | | | |
| Bromomethane | ND | 10.0 | | | | | | | | | |
| Carbon Disulfide | ND | 10.0 | | | | | | | | | |
| Carbon tetrachloride | ND | 10.0 | | | | | | | | | |
| Chlorobenzene | ND | 10.0 | | | | | | | | | |
| Chloroethane | ND | 10.0 | | | | | | | | | |
| Chloroform | ND | 10.0 | | | | | | | | | |
| Chloromethane | ND | 10.0 | | | | | | | | | |
| cis-1,2-Dichloroethene | ND | 10.0 | | | | | | | | | |
| cis-1,3-Dichloropropene | ND | 10.0 | | | | | | | | | |
| Dibromochloromethane | ND | 10.0 | | | | | | | | | |
| Dibromomethane | ND | 10.0 | | | | | | | | | |
| Dichlorodifluoromethane | ND | 10.0 | | | | | | | | | |
| Ethylbenzene | ND | 10.0 | | | | | | | | | |
| Hexachlorobutadiene | ND | 10.0 | | | | | | | | | |
| Hexane | ND | 0 | | | | | | | | | |
| Isopropylbenzene | ND | 10.0 | | | | | | | | | |
| m,p-Xylene | ND | 20.0 | | | | | | | | | |
| Methyl tert-butyl ether | ND | 10.0 | | | | | | | | | |
| Methylene Chloride | 4.48 | 50.0 | | | | | | | | | J |
| n-Butylbenzene | ND | 10.0 | | | | | | | | | |
| n-Propylbenzene | ND | 10.0 | | | | | | | | | |
| Naphthalene | 2.23 | 10.0 | | | | | | | | | J |
| o-Xylene | ND | 10.0 | | | | | | | | | |
| sec-Butylbenzene | ND | 10.0 | | | | | | | | | |
| Styrene | ND | 10.0 | | | | | | | | | |
| tert-Butylbenzene | ND | 10.0 | | | | | | | | | |
| Tetrachloroethene | ND | 10.0 | | | | | | | | | |
| Toluene | 1.17 | 10.0 | | | | | | | | | J |
| trans-1,2-Dichloroethene | ND | 10.0 | | | | | | | | | |

**Qualifiers:**
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S - Spike Recovery outside accepted recovery limits
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **MBLK-29933** SampType: **MBLK** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/5/2011** SeqNo: **791896**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | 10.0 | | | | | | | | | |
| Trichloroethene | ND | 10.0 | | | | | | | | | |
| Trichlorofluoromethane | ND | 10.0 | | | | | | | | | |
| Vinyl Chloride | ND | 10.0 | | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 92.99 | 0 | 100 | 0 | 93 | 71.5 | 112 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 82.13 | 0 | 100 | 0 | 82.1 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 99.8 | 0 | 100 | 0 | 99.8 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 114.8 | 0 | 100 | 0 | 115 | 74.9 | 120 | 0 | 0 | | |

Sample ID: **LCS-29933** SampType: **LCS** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/5/2011** SeqNo: **791895**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 56.81 | 10.0 | 60 | 0 | 94.7 | 65.4 | 133 | 0 | 0 | | |
| Benzene | 63.26 | 10.0 | 60 | 0 | 105 | 78 | 123 | 0 | 0 | | |
| Chlorobenzene | 59.57 | 10.0 | 60 | 0 | 99.3 | 79.5 | 125 | 0 | 0 | | |
| Toluene | 58.35 | 10.0 | 60 | 0 | 97.2 | 77.5 | 132 | 0 | 0 | | |
| Trichloroethene | 59.27 | 10.0 | 60 | 0 | 98.8 | 72.4 | 124 | 0 | 0 | | |

Sample ID: **LCSD-29933** SampType: **LCSD** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/7/2011** SeqNo: **791901**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 49.98 | 10.0 | 60 | 0 | 83.3 | 65.4 | 133 | 56.81 | 12.8 | 20 | |
| Benzene | 65.47 | 10.0 | 60 | 0 | 109 | 78 | 123 | 63.26 | 3.43 | 20 | |
| Chlorobenzene | 58.19 | 10.0 | 60 | 0 | 97 | 79.5 | 125 | 59.57 | 2.34 | 20 | |
| Toluene | 61.07 | 10.0 | 60 | 0 | 102 | 77.5 | 132 | 58.35 | 4.56 | 20 | |
| Trichloroethene | 59.81 | 10.0 | 60 | 0 | 99.7 | 72.4 | 124 | 59.27 | 0.907 | 20 | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/7/2011** SeqNo: **791902**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,1-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichlorobenzene | 1.43 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trichlorobenzene | 0.91 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromoethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichlorobenzene | 0.36 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,4-Dichlorobenzene | 0.53 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Butanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Hexanone | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Isopropyltoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Methyl-2-pentanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acetone | 13.26 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/7/2011** SeqNo: **791902**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromoform | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon Disulfide | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon tetrachloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroform | 0.29 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dichlorodifluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexachlorobutadiene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexane | ND | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Isopropylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| m,p-Xylene | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methyl tert-butyl ether | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methylene Chloride | 22.86 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Butylbenzene | 0.35 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Propylbenzene | 0.15 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 2.78 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| o-Xylene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| sec-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Styrene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| tert-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Tetrachloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Toluene | 0.9 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/7/2011** SeqNo: **791902**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichlorofluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Vinyl Chloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 1,2-Dichloroethane-d4 | 99.04 | 0 | 100 | 0 | 99 | 71.5 | 112 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 84.01 | 0 | 100 | 0 | 84 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 99.21 | 0 | 100 | 0 | 99.2 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 122.1 | 0 | 100 | 0 | 122 | 74.9 | 120 | 0 | 0 | | S |

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/8/2011** SeqNo: **791904**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,1-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichlorobenzene | 0.76 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trichlorobenzene | 0.55 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromoethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/8/2011** SeqNo: **791904**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,3-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,4-Dichlorobenzene | 0.36 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Butanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Hexanone | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Isopropyltoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Methyl-2-pentanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acetone | 10.7 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromodichloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromoform | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon Disulfide | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon tetrachloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroform | 0.33 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dichlorodifluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ethylbenzene | 0.12 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexachlorobutadiene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexane | ND | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Isopropylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/8/2011** SeqNo: **791904**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| m,p-Xylene | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methyl tert-butyl ether | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methylene Chloride | 23.21 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Propylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 1.65 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| o-Xylene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| sec-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Styrene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| tert-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Tetrachloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Toluene | 1.18 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichlorofluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Vinyl Chloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 1,2-Dichloroethane-d4 | 89.75 | 0 | 100 | 0 | 89.8 | 71.5 | 112 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 86.42 | 0 | 100 | 0 | 86.4 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 98.36 | 0 | 100 | 0 | 98.4 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 127.5 | 0 | 100 | 0 | 128 | 74.9 | 120 | 0 | 0 | | S |

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/7/2011** SeqNo: **792100**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,1-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/7/2011** SeqNo: **792100**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichlorobenzene | 1.43 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trichlorobenzene | 0.91 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromoethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichlorobenzene | 0.36 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,4-Dichlorobenzene | 0.53 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Butanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Hexanone | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Isopropyltoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Methyl-2-pentanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acetone | 13.26 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromodichloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromoform | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon Disulfide | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon tetrachloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/7/2011** SeqNo: **792100**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroform | 0.29 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dichlorodifluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexachlorobutadiene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexane | ND | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Isopropylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| m,p-Xylene | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methyl tert-butyl ether | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methylene Chloride | 22.86 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Butylbenzene | 0.35 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Propylbenzene | 0.15 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 2.78 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| o-Xylene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| sec-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Styrene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| tert-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Tetrachloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Toluene | 0.9 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichlorofluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Vinyl Chloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 1,2-Dichloroethane-d4 | 99.04 | 0 | 100 | 0 | 99 | 71.5 | 112 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/7/2011** SeqNo: **792100**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 84.01 | 0 | 100 | 0 | 84 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 99.21 | 0 | 100 | 0 | 99.2 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 122.1 | 0 | 100 | 0 | 122 | 74.9 | 120 | 0 | 0 | | S |

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/8/2011** SeqNo: **792107**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,1-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichlorobenzene | 0.76 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trichlorobenzene | 0.55 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromoethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,4-Dichlorobenzene | 0.36 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Butanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/8/2011** SeqNo: **792107**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-Hexanone | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Isopropyltoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Methyl-2-pentanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acetone | 10.7 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromodichloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromoform | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon Disulfide | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon tetrachloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroform | 0.33 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dichlorodifluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ethylbenzene | 0.12 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexachlorobutadiene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexane | ND | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Isopropylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| m,p-Xylene | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methyl tert-butyl ether | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methylene Chloride | 23.21 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Propylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

| Sample ID: **CCB-29933** | SampType: **CCB** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/8/2011** | SeqNo: **792107** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | 1.65 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| o-Xylene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| sec-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Styrene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| tert-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Tetrachloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Toluene | 1.18 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichlorofluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Vinyl Chloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 1,2-Dichloroethane-d4 | 89.75 | 0 | 100 | 0 | 89.8 | 71.5 | 112 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 86.42 | 0 | 100 | 0 | 86.4 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 98.36 | 0 | 100 | 0 | 98.4 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 127.5 | 0 | 100 | 0 | 128 | 74.9 | 120 | 0 | 0 | | S |

| Sample ID: **CCB-29933** | SampType: **CCB** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/9/2011** | SeqNo: **792280** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,1-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichlorobenzene | 1.8 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trichlorobenzene | 1.15 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/9/2011** SeqNo: **792280**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromoethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichlorobenzene | 0.43 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,4-Dichlorobenzene | 0.71 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Butanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Hexanone | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Isopropyltoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Methyl-2-pentanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acetone | 5.9 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromodichloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromoform | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon Disulfide | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon tetrachloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroform | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

| Sample ID: **CCB-29933** | SampType: **CCB** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/9/2011** | SeqNo: **792280** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dichlorodifluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexachlorobutadiene | 0.53 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexane | ND | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Isopropylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| m,p-Xylene | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methyl tert-butyl ether | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methylene Chloride | ND | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Butylbenzene | 0.42 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Propylbenzene | 0.16 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 3.21 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| o-Xylene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| sec-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Styrene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| tert-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Tetrachloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Toluene | 0.87 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichlorofluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Vinyl Chloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 1,2-Dichloroethane-d4 | 86.9 | 0 | 100 | 0 | 86.9 | 71.5 | 112 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 96.67 | 0 | 100 | 0 | 96.7 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 91.21 | 0 | 100 | 0 | 91.2 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 114.8 | 0 | 100 | 0 | 115 | 74.9 | 120 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/10/2011** SeqNo: **792593**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,1-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichlorobenzene | 1.4 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trichlorobenzene | 0.85 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromoethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,4-Dichlorobenzene | 0.46 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Butanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Hexanone | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Isopropyltoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Methyl-2-pentanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acetone | 8.05 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/10/2011** SeqNo: **792593**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromoform | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon Disulfide | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon tetrachloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroform | 0.23 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dichlorodifluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ethylbenzene | 0.14 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexachlorobutadiene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexane | ND | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Isopropylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| m,p-Xylene | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methyl tert-butyl ether | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methylene Chloride | ND | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Butylbenzene | 0.29 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Propylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 2.51 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| o-Xylene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| sec-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Styrene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| tert-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Tetrachloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Toluene | 0.88 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/10/2011** SeqNo: **792593**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichlorofluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Vinyl Chloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 1,2-Dichloroethane-d4 | 89.47 | 0 | 100 | 0 | 89.5 | 71.5 | 112 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 96.33 | 0 | 100 | 0 | 96.3 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 100.6 | 0 | 100 | 0 | 101 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 114.2 | 0 | 100 | 0 | 114 | 74.9 | 120 | 0 | 0 | | |

Sample ID: **CCV-29933** SampType: **CCV** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/5/2011** SeqNo: **791894**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 58.58 | 10.0 | 60 | 0 | 97.6 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 58.13 | 10.0 | 60 | 0 | 96.9 | 80 | 120 | 0 | 0 | | |
| Chloroform | 61.35 | 10.0 | 60 | 0 | 102 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 63.22 | 10.0 | 60 | 0 | 105 | 80 | 120 | 0 | 0 | | |
| Toluene | 59.22 | 10.0 | 60 | 0 | 98.7 | 80 | 120 | 0 | 0 | | |
| Vinyl Chloride | 49.6 | 10.0 | 60 | 0 | 82.7 | 80 | 120 | 0 | 0 | | |

Sample ID: **CCV-29933** SampType: **CCV** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/7/2011** SeqNo: **791900**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 52.58 | 10.0 | 60 | 0 | 87.6 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 56.44 | 10.0 | 60 | 0 | 94.1 | 80 | 120 | 0 | 0 | | |
| Chloroform | 60.51 | 10.0 | 60 | 0 | 101 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 59.11 | 10.0 | 60 | 0 | 98.5 | 80 | 120 | 0 | 0 | | |
| Toluene | 60.18 | 10.0 | 60 | 0 | 100 | 80 | 120 | 0 | 0 | | |
| Vinyl Chloride | 71.55 | 10.0 | 60 | 0 | 119 | 80 | 120 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

| Sample ID: **CCV-29933** | SampType: **CCV** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/8/2011** | SeqNo: **791903** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 53.29 | 10.0 | 60 | 0 | 88.8 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 57.99 | 10.0 | 60 | 0 | 96.7 | 80 | 120 | 0 | 0 | | |
| Chloroform | 61.53 | 10.0 | 60 | 0 | 103 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 56.87 | 10.0 | 60 | 0 | 94.8 | 80 | 120 | 0 | 0 | | |
| Toluene | 61.67 | 10.0 | 60 | 0 | 103 | 80 | 120 | 0 | 0 | | |
| Vinyl Chloride | 50.61 | 10.0 | 60 | 0 | 84.4 | 80 | 120 | 0 | 0 | | |

| Sample ID: **CCV-29933** | SampType: **CCV** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/7/2011** | SeqNo: **792098** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 52.58 | 10.0 | 60 | 0 | 87.6 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 56.44 | 10.0 | 60 | 0 | 94.1 | 80 | 120 | 0 | 0 | | |
| Chloroform | 60.51 | 10.0 | 60 | 0 | 101 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 59.11 | 10.0 | 60 | 0 | 98.5 | 80 | 120 | 0 | 0 | | |
| Toluene | 60.18 | 10.0 | 60 | 0 | 100 | 80 | 120 | 0 | 0 | | |
| Vinyl Chloride | 71.55 | 10.0 | 60 | 0 | 119 | 80 | 120 | 0 | 0 | | |

| Sample ID: **CCV-29933** | SampType: **CCV** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/8/2011** | SeqNo: **792106** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 53.29 | 10.0 | 60 | 0 | 88.8 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 57.99 | 10.0 | 60 | 0 | 96.7 | 80 | 120 | 0 | 0 | | |
| Chloroform | 61.53 | 10.0 | 60 | 0 | 103 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 56.87 | 10.0 | 60 | 0 | 94.8 | 80 | 120 | 0 | 0 | | |
| Toluene | 61.67 | 10.0 | 60 | 0 | 103 | 80 | 120 | 0 | 0 | | |
| Vinyl Chloride | 50.61 | 10.0 | 60 | 0 | 84.4 | 80 | 120 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

| Sample ID: **CCV-29933** | SampType: **CCV** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/9/2011** | SeqNo: **792279** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 71.98 | 10.0 | 60 | 0 | 120 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 62.37 | 10.0 | 60 | 0 | 104 | 80 | 120 | 0 | 0 | | |
| Chloroform | 60.96 | 10.0 | 60 | 0 | 102 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 59.51 | 10.0 | 60 | 0 | 99.2 | 80 | 120 | 0 | 0 | | |
| Toluene | 59.27 | 10.0 | 60 | 0 | 98.8 | 80 | 120 | 0 | 0 | | |
| Vinyl Chloride | 67.21 | 10.0 | 60 | 0 | 112 | 80 | 120 | 0 | 0 | | |

| Sample ID: **CCV-29933** | SampType: **CCV** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/10/2011** | SeqNo: **792592** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 58.8 | 10.0 | 60 | 0 | 98 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 59.61 | 10.0 | 60 | 0 | 99.4 | 80 | 120 | 0 | 0 | | |
| Chloroform | 57.59 | 10.0 | 60 | 0 | 96 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 58.05 | 10.0 | 60 | 0 | 96.8 | 80 | 120 | 0 | 0 | | |
| Toluene | 54.31 | 10.0 | 60 | 0 | 90.5 | 80 | 120 | 0 | 0 | | |
| Vinyl Chloride | 48.7 | 10.0 | 60 | 0 | 81.2 | 80 | 120 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **MBLK-29856** | SampType: **MBLK** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_111031A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29856** | TestNo: **SW7471** | | Analysis Date: **10/31/2011** | SeqNo: **789449** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.0167 | | | | | | | | | |

| Sample ID: **MB-29888** | SampType: **MBLK** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **11/3/2011** | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790580** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.0167 | | | | | | | | | |

| Sample ID: **MB-29920** | SampType: **MBLK** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **11/8/2011** | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791670** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.0167 | | | | | | | | | |

| Sample ID: **LCS-29856** | SampType: **LCS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **10/31/2011** | Run ID: **CVAA_111031A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29856** | TestNo: **SW7471** | | Analysis Date: **10/31/2011** | SeqNo: **789448** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2468 | 0.0167 | 0.25 | 0 | 98.7 | 88.2 | 113 | 0 | 0 | | |

| Sample ID: **LCS-29888** | SampType: **LCS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **11/3/2011** | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790579** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2514 | 0.0167 | 0.25 | 0 | 101 | 88.2 | 113 | 0 | 0 | | |

| Sample ID: **LCS-29920** | SampType: **LCS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **11/8/2011** | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791669** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **LCS-29920** | SampType: **LCS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **11/8/2011** | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791669** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2528 | 0.0167 | 0.25 | 0 | 101 | 88.2 | 113 | 0 | 0 | | |

| Sample ID: **1110243-04AMS** | SampType: **MS** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **10/31/2011** | Run ID: **CVAA_111031A** |
|---|---|---|---|---|---|
| Client ID: **TP-13-S-1.0** | Batch ID: **29856** | TestNo: **SW7471** | | Analysis Date: **10/31/2011** | SeqNo: **789440** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2476 | 0.0164 | 0.2455 | 0.02849 | 89.3 | 78.1 | 125 | 0 | 0 | | |

| Sample ID: **1110255-31AMS** | SampType: **MS** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **11/3/2011** | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790577** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 1.235 | 0.163 | 0.2442 | 2.117 | -361 | 78.1 | 125 | 0 | 0 | | S,MC |

| Sample ID: **1110243-13AMS** | SampType: **MS** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **11/8/2011** | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **TP-16-S-1.5** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791661** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 1.345 | 0.167 | 0.2506 | 1.121 | 89.2 | 78.1 | 125 | 0 | 0 | | |

| Sample ID: **1110243-04AMSD** | SampType: **MSD** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **10/31/2011** | Run ID: **CVAA_111031A** |
|---|---|---|---|---|---|
| Client ID: **TP-13-S-1.0** | Batch ID: **29856** | TestNo: **SW7471** | | Analysis Date: **10/31/2011** | SeqNo: **789441** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2446 | 0.0158 | 0.2361 | 0.02849 | 91.6 | 78.1 | 125 | 0.2476 | 1.22 | 20 | |

| Sample ID: **1110255-31AMSD** | SampType: **MSD** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **11/3/2011** | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790578** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **1110255-31AMSD** | SampType: **MSD** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **11/3/2011** | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790578** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 1.384 | 0.173 | 0.2586 | 2.117 | -284 | 78.1 | 125 | 1.235 | 11.3 | 20 | S,MC |

| Sample ID: **1110243-13AMSD** | SampType: **MSD** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **11/8/2011** | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **TP-16-S-1.5** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791662** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 1.291 | 0.163 | 0.2437 | 1.121 | 69.8 | 78.1 | 125 | 1.345 | 4.07 | 20 | S,MC |

| Sample ID: **1110243-04ADUP** | SampType: **DUP** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **10/31/2011** | Run ID: **CVAA_111031A** |
|---|---|---|---|---|---|
| Client ID: **TP-13-S-1.0** | Batch ID: **29856** | TestNo: **SW7471** | | Analysis Date: **10/31/2011** | SeqNo: **789439** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.02473 | 0.0164 | 0 | 0 | 0 | 0 | 0 | 0.02849 | 14.1 | 20 | |

| Sample ID: **1110255-31ADUP** | SampType: **DUP** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **11/3/2011** | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790576** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 1.605 | 0.159 | 0 | 0 | 0 | 0 | 0 | 2.117 | 27.5 | 20 | R,MI |

| Sample ID: **1110243-13ADUP** | SampType: **DUP** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **11/8/2011** | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **TP-16-S-1.5** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791660** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 1.216 | 0.167 | 0 | 0 | 0 | 0 | 0 | 1.121 | 8.13 | 20 | |

| Sample ID: **CCV-29856** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_111031A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29856** | TestNo: **SW7471** | | Analysis Date: **10/31/2011** | SeqNo: **789447** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **CCV-29856** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_111031A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29856** | TestNo: **SW7471** | | Analysis Date: **10/31/2011** | SeqNo: **789447** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2372 | 0.0167 | 0.25 | 0 | 94.9 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790581** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2379 | 0.0167 | 0.25 | 0 | 95.2 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790582** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2294 | 0.0167 | 0.25 | 0 | 91.8 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791668** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2458 | 0.0167 | 0.25 | 0 | 98.3 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791671** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2456 | 0.0167 | 0.25 | 0 | 98.2 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

| Sample ID: **MB-29845** | SampType: **MBLK** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **10/28/2011** | Run ID: **GC-M_111028A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29845** | TestNo: **NWTPH-Dx** | | Analysis Date: **10/28/2011** | SeqNo: **789302** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | | | | | | | | | |
| Lube Oil | ND | 50.0 | | | | | | | | | |
| Surr: o-Terphenyl | 33.43 | 0 | 33.33 | 0 | 100 | 50 | 150 | 0 | 0 | | |

| Sample ID: **LCS-29845** | SampType: **LCS** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **10/28/2011** | Run ID: **GC-M_111028A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29845** | TestNo: **NWTPH-Dx** | | Analysis Date: **10/28/2011** | SeqNo: **789303** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 163.5 | 15.0 | 166.6 | 0 | 98.1 | 76.3 | 125 | 0 | 0 | | |
| Lube Oil | 178.5 | 50.0 | 166.6 | 0 | 107 | 69.9 | 127 | 0 | 0 | | |

| Sample ID: **1110236-02BDUP** | SampType: **DUP** | TestCode: **NWTPHDX_S** | Units: **mg/Kg-dry** | Prep Date: **10/28/2011** | Run ID: **GC-M_111028A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29845** | TestNo: **NWTPH-Dx** | | Analysis Date: **10/28/2011** | SeqNo: **789305** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 20.1 | 0 | 0 | 0 | 0 | 0 | 9.857 | 0 | 20 | |
| Lube Oil | 31.59 | 67.1 | 0 | 0 | 0 | 0 | 0 | 41.11 | 0 | 20 | J |

| Sample ID: **CCB-29845** | SampType: **CCB** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_111028A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29845** | TestNo: **NWTPH-Dx** | | Analysis Date: **10/31/2011** | SeqNo: **789903** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 2.086 | 15.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Lube Oil | 43.87 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: o-Terphenyl | 32.94 | 0 | 33.33 | 0 | 98.8 | 50 | 150 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_111028A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29845** | TestNo: **NWTPH-Dx** | | Analysis Date: **10/28/2011** | SeqNo: **789301** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_111028A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29845** | TestNo: **NWTPH-Dx** | | Analysis Date: **10/28/2011** | SeqNo: **789301** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1014 | 15.0 | 1009 | 0 | 100 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 501.9 | 50.0 | 524.9 | 0 | 95.6 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_111028A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29845** | TestNo: **NWTPH-Dx** | | Analysis Date: **10/28/2011** | SeqNo: **789306** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1296 | 15.0 | 1346 | 0 | 96.3 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 682 | 50.0 | 699.9 | 0 | 97.4 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_111028A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29845** | TestNo: **NWTPH-Dx** | | Analysis Date: **10/31/2011** | SeqNo: **789902** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1388 | 15.0 | 1346 | 0 | 103 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 666.4 | 50.0 | 699.9 | 0 | 95.2 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_111028A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29845** | TestNo: **NWTPH-Dx** | | Analysis Date: **10/31/2011** | SeqNo: **789908** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1070 | 15.0 | 1009 | 0 | 106 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 506.3 | 50.0 | 524.9 | 0 | 96.5 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **MBLK-29844** SampType: **MBLK** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_111104A**
Client ID: **ZZZZZ** Batch ID: **29844** TestNo: **8270SIM** Analysis Date: **11/4/2011** SeqNo: **791511**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ND | 6.67 | | | | | | | | | |
| 2-Methylnaphthalene | 1.333 | 6.67 | | | | | | | | | J |
| Acenaphthene | ND | 6.67 | | | | | | | | | |
| Acenaphthylene | ND | 6.67 | | | | | | | | | |
| Anthracene | ND | 6.67 | | | | | | | | | |
| Benz(a)anthracene | 3.333 | 6.67 | | | | | | | | | J |
| Benzo(a)pyrene | 4.667 | 6.67 | | | | | | | | | J |
| Benzo(b)fluoranthene | 3.333 | 6.67 | | | | | | | | | J |
| Benzo(g,h,i)perylene | 2 | 6.67 | | | | | | | | | J |
| Benzo(k)fluoranthene | 4.667 | 6.67 | | | | | | | | | J |
| Chrysene | 3.333 | 6.67 | | | | | | | | | J |
| Dibenz(a,h)anthracene | 2.667 | 6.67 | | | | | | | | | J |
| Fluoranthene | 2 | 6.67 | | | | | | | | | J |
| Fluorene | 0.6667 | 6.67 | | | | | | | | | J |
| Indeno(1,2,3-cd)pyrene | 2 | 6.67 | | | | | | | | | J |
| Naphthalene | ND | 6.67 | | | | | | | | | |
| Phenanthrene | 0.6667 | 6.67 | | | | | | | | | J |
| Pyrene | 1.333 | 6.67 | | | | | | | | | J |
| Surr: 2-Fluorobiphenyl | 4885 | 0 | 6667 | 0 | 73.3 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 5612 | 0 | 6667 | 0 | 84.2 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 7206 | 0 | 6667 | 0 | 108 | 44.9 | 155 | 0 | 0 | | |

Sample ID: **MB-29916** SampType: **MBLK** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **11/7/2011** Run ID: **5973G_111109A**
Client ID: **ZZZZZ** Batch ID: **29916** TestNo: **8270SIM** Analysis Date: **11/9/2011** SeqNo: **792202**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ND | 6.67 | | | | | | | | | |
| 2-Methylnaphthalene | 1.333 | 6.67 | | | | | | | | | J |
| Acenaphthene | 1.333 | 6.67 | | | | | | | | | J |
| Acenaphthylene | ND | 6.67 | | | | | | | | | |
| Anthracene | ND | 6.67 | | | | | | | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **MB-29916** SampType: **MBLK** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **11/7/2011** Run ID: **5973G_111109A**
Client ID: **ZZZZZ** Batch ID: **29916** TestNo: **8270SIM** Analysis Date: **11/9/2011** SeqNo: **792202**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benz(a)anthracene | 2.667 | 6.67 | | | | | | | | | J |
| Benzo(a)pyrene | 2.667 | 6.67 | | | | | | | | | J |
| Benzo(b)fluoranthene | 6 | 6.67 | | | | | | | | | J |
| Benzo(g,h,i)perylene | 4 | 6.67 | | | | | | | | | J |
| Benzo(k)fluoranthene | 1.333 | 6.67 | | | | | | | | | J |
| Chrysene | 4 | 6.67 | | | | | | | | | J |
| Dibenz(a,h)anthracene | ND | 6.67 | | | | | | | | | |
| Fluoranthene | 2.667 | 6.67 | | | | | | | | | J |
| Fluorene | ND | 6.67 | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | 4 | 6.67 | | | | | | | | | J |
| Naphthalene | 2 | 6.67 | | | | | | | | | J |
| Phenanthrene | 0.6667 | 6.67 | | | | | | | | | J |
| Pyrene | 2 | 6.67 | | | | | | | | | J |
| Surr: 2-Fluorobiphenyl | 4054 | 0 | 6667 | 0 | 60.8 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 4221 | 0 | 6667 | 0 | 63.3 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 4873 | 0 | 6667 | 0 | 73.1 | 44.9 | 155 | 0 | 0 | | |

Sample ID: **MB-29891** SampType: **MBLK** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **11/3/2011** Run ID: **5973G_111110A**
Client ID: **ZZZZZ** Batch ID: **29891** TestNo: **8270SIM** Analysis Date: **11/9/2011** SeqNo: **792262**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ND | 6.67 | | | | | | | | | |
| 2-Methylnaphthalene | ND | 6.67 | | | | | | | | | |
| Acenaphthene | ND | 6.67 | | | | | | | | | |
| Acenaphthylene | ND | 6.67 | | | | | | | | | |
| Anthracene | 0.6667 | 6.67 | | | | | | | | | J |
| Benz(a)anthracene | 4.667 | 6.67 | | | | | | | | | J |
| Benzo(a)pyrene | 5.333 | 6.67 | | | | | | | | | J |
| Benzo(b)fluoranthene | 5.333 | 6.67 | | | | | | | | | J |
| Benzo(g,h,i)perylene | 6 | 6.67 | | | | | | | | | J |
| Benzo(k)fluoranthene | 2.667 | 6.67 | | | | | | | | | J |

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **MB-29891** | SampType: **MBLK** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **11/3/2011** | Run ID: **5973G_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29891** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792262** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chrysene | 6 | 6.67 | | | | | | | | | J |
| Dibenz(a,h)anthracene | 2.667 | 6.67 | | | | | | | | | J |
| Fluoranthene | 4 | 6.67 | | | | | | | | | J |
| Fluorene | ND | 6.67 | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | 4.667 | 6.67 | | | | | | | | | J |
| Naphthalene | 1.333 | 6.67 | | | | | | | | | J |
| Phenanthrene | 1.333 | 6.67 | | | | | | | | | J |
| Pyrene | 6 | 6.67 | | | | | | | | | J |
| Surr: 2-Fluorobiphenyl | 3828 | 0 | 6667 | 0 | 57.4 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 4010 | 0 | 6667 | 0 | 60.1 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 4624 | 0 | 6667 | 0 | 69.4 | 44.9 | 155 | 0 | 0 | | |

| Sample ID: **LCS-29844** | SampType: **LCS** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **10/28/2011** | Run ID: **5975Q_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29844** | TestNo: **8270SIM** | | Analysis Date: **11/4/2011** | SeqNo: **791512** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 237.3 | 6.67 | 333.3 | 0 | 71.2 | 39.6 | 107 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 253.3 | 6.67 | 333.3 | 0 | 76 | 49.7 | 135 | 0 | 0 | | |
| Chrysene | 276.7 | 6.67 | 333.3 | 0 | 83 | 57.1 | 130 | 0 | 0 | | |
| Naphthalene | 236 | 6.67 | 333.3 | 0 | 70.8 | 29.1 | 109 | 0 | 0 | | |
| Phenanthrene | 281.3 | 6.67 | 333.3 | 0 | 84.4 | 48.4 | 115 | 0 | 0 | | |
| Pyrene | 284 | 6.67 | 333.3 | 0 | 85.2 | 47.2 | 134 | 0 | 0 | | |

| Sample ID: **LCS-29844** | SampType: **LCS** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **10/28/2011** | Run ID: **5973P_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29844** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792142** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 212 | 6.67 | 333.3 | 0 | 63.6 | 39.6 | 107 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 265.3 | 6.67 | 333.3 | 0 | 79.6 | 49.7 | 135 | 0 | 0 | | |
| Chrysene | 218.7 | 6.67 | 333.3 | 0 | 65.6 | 57.1 | 130 | 0 | 0 | | |
| Naphthalene | 189.3 | 6.67 | 333.3 | 0 | 56.8 | 29.1 | 109 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **LCS-29844** | SampType: **LCS** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **10/28/2011** | Run ID: **5973P_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29844** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792142** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Phenanthrene | 210.7 | 6.67 | 333.3 | 0 | 63.2 | 48.4 | 115 | 0 | 0 | | |
| Pyrene | 245.3 | 6.67 | 333.3 | 0 | 73.6 | 47.2 | 134 | 0 | 0 | | |

| Sample ID: **LCS-29916** | SampType: **LCS** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **11/7/2011** | Run ID: **5973G_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29916** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792203** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 184.7 | 6.67 | 333.3 | 0 | 55.4 | 39.6 | 107 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 166.7 | 6.67 | 333.3 | 0 | 50 | 49.7 | 135 | 0 | 0 | | |
| Chrysene | 191.3 | 6.67 | 333.3 | 0 | 57.4 | 57.1 | 130 | 0 | 0 | | |
| Naphthalene | 178.7 | 6.67 | 333.3 | 0 | 53.6 | 29.1 | 109 | 0 | 0 | | |
| Phenanthrene | 186.7 | 6.67 | 333.3 | 0 | 56 | 48.4 | 115 | 0 | 0 | | |
| Pyrene | 209.3 | 6.67 | 333.3 | 0 | 62.8 | 47.2 | 134 | 0 | 0 | | |

| Sample ID: **LCS-29891** | SampType: **LCS** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **11/3/2011** | Run ID: **5973G_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29891** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792263** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 185.3 | 6.67 | 333.3 | 0 | 55.6 | 39.6 | 107 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 186.7 | 6.67 | 333.3 | 0 | 56 | 49.7 | 135 | 0 | 0 | | |
| Chrysene | 212.7 | 6.67 | 333.3 | 0 | 63.8 | 57.1 | 130 | 0 | 0 | | |
| Naphthalene | 168 | 6.67 | 333.3 | 0 | 50.4 | 29.1 | 109 | 0 | 0 | | |
| Phenanthrene | 205.3 | 6.67 | 333.3 | 0 | 61.6 | 48.4 | 115 | 0 | 0 | | |
| Pyrene | 244 | 6.67 | 333.3 | 0 | 73.2 | 47.2 | 134 | 0 | 0 | | |

| Sample ID: **1110243-16AMS** | SampType: **MS** | TestCode: **PAHLL_S** | Units: **µg/Kg-dry** | Prep Date: **11/7/2011** | Run ID: **5973G_111109A** |
|---|---|---|---|---|---|
| Client ID: **TP-17-S-1.5** | Batch ID: **29916** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792204** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 307.7 | 78.9 | 394.5 | 23.67 | 72 | 33.7 | 111 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 315.6 | 78.9 | 394.5 | 52.07 | 66.8 | 15 | 128 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **1110243-16AMS** SampType: **MS** TestCode: **PAHLL_S** Units: **µg/Kg-dry** Prep Date: **11/7/2011** Run ID: **5973G_111109A**
Client ID: **TP-17-S-1.5** Batch ID: **29916** TestNo: **8270SIM** Analysis Date: **11/9/2011** SeqNo: **792204**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chrysene | 355 | 78.9 | 394.5 | 55.23 | 76 | 37.5 | 125 | 0 | 0 | | |
| Naphthalene | 244.6 | 78.9 | 394.5 | 26.82 | 55.2 | 27.7 | 108 | 0 | 0 | | |
| Phenanthrene | 355 | 78.9 | 394.5 | 55.23 | 76 | 20.2 | 139 | 0 | 0 | | |
| Pyrene | 512.8 | 78.9 | 394.5 | 216.2 | 75.2 | 26.8 | 142 | 0 | 0 | | |

Sample ID: **1110236-01BMS** SampType: **MS** TestCode: **PAHLL_S** Units: **µg/Kg-dry** Prep Date: **10/28/2011** Run ID: **5973P_111109A**
Client ID: **ZZZZZ** Batch ID: **29844** TestNo: **8270SIM** Analysis Date: **11/9/2011** SeqNo: **792243**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 816.3 | 2720 | 340.1 | 544.2 | 80 | 33.7 | 111 | 0 | 0 | | JMI |
| Benzo(g,h,i)perylene | 262900 | 2720 | 340.1 | 273700 | -3200 | 15 | 128 | 0 | 0 | | S,MC |
| Chrysene | 205700 | 2720 | 340.1 | 196100 | 2840 | 37.5 | 125 | 0 | 0 | | S,MC |
| Naphthalene | 1361 | 2720 | 340.1 | 1224 | 40 | 27.7 | 108 | 0 | 0 | | JMI |
| Phenanthrene | 20140 | 2720 | 340.1 | 23270 | -920 | 20.2 | 139 | 0 | 0 | | S,MC |
| Pyrene | 148300 | 2720 | 340.1 | 144900 | 1000 | 26.8 | 142 | 0 | 0 | | S,MC |

Sample ID: **1110255-13AMS** SampType: **MS** TestCode: **PAHLL_S** Units: **µg/Kg-dry** Prep Date: **11/3/2011** Run ID: **5973G_111110A**
Client ID: **ZZZZZ** Batch ID: **29891** TestNo: **8270SIM** Analysis Date: **11/10/2011** SeqNo: **792604**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 262.5 | 9.09 | 454.1 | 0 | 57.8 | 33.7 | 111 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 293.4 | 9.09 | 454.1 | 7.266 | 63 | 15 | 128 | 0 | 0 | | |
| Chrysene | 322.4 | 9.09 | 454.1 | 5.45 | 69.8 | 37.5 | 125 | 0 | 0 | | |
| Naphthalene | 233.4 | 9.09 | 454.1 | 3.633 | 50.6 | 27.7 | 108 | 0 | 0 | | |
| Phenanthrene | 328.8 | 9.09 | 454.1 | 3.633 | 71.6 | 20.2 | 139 | 0 | 0 | | |
| Pyrene | 438.7 | 9.09 | 454.1 | 9.083 | 94.6 | 26.8 | 142 | 0 | 0 | | |

Sample ID: **1110243-16AMSD** SampType: **MSD** TestCode: **PAHLL_S** Units: **µg/Kg-dry** Prep Date: **11/7/2011** Run ID: **5973G_111109A**
Client ID: **TP-17-S-1.5** Batch ID: **29916** TestNo: **8270SIM** Analysis Date: **11/9/2011** SeqNo: **792205**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **1110243-16AMSD** | SampType: **MSD** | TestCode: **PAHLL_S** | Units: **µg/Kg-dry** | Prep Date: **11/7/2011** | Run ID: **5973G_111109A** |
|---|---|---|---|---|---|
| Client ID: **TP-17-S-1.5** | Batch ID: **29916** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792205** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 276.1 | 78.9 | 394.5 | 23.67 | 64 | 33.7 | 111 | 307.7 | 10.8 | 20 | |
| Benzo(g,h,i)perylene | 331.4 | 78.9 | 394.5 | 52.07 | 70.8 | 15 | 128 | 315.6 | 4.88 | 20 | |
| Chrysene | 347.1 | 78.9 | 394.5 | 55.23 | 74 | 37.5 | 125 | 355 | 2.25 | 20 | |
| Naphthalene | 220.9 | 78.9 | 394.5 | 26.82 | 49.2 | 27.7 | 108 | 244.6 | 10.2 | 20 | |
| Phenanthrene | 347.1 | 78.9 | 394.5 | 55.23 | 74 | 20.2 | 139 | 355 | 2.25 | 20 | |
| Pyrene | 520.7 | 78.9 | 394.5 | 216.2 | 77.2 | 26.8 | 142 | 512.8 | 1.53 | 20 | |

| Sample ID: **1110236-01BMSD** | SampType: **MSD** | TestCode: **PAHLL_S** | Units: **µg/Kg-dry** | Prep Date: **10/28/2011** | Run ID: **5973P_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29844** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792244** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 544.2 | 2720 | 340.1 | 544.2 | 0 | 33.7 | 111 | 816.3 | 0 | 20 | JS,MI |
| Benzo(g,h,i)perylene | 249800 | 2720 | 340.1 | 273700 | -7040 | 15 | 128 | 262900 | 5.10 | 20 | S,MC |
| Chrysene | 188000 | 2720 | 340.1 | 196100 | -2360 | 37.5 | 125 | 205700 | 8.98 | 20 | S,MC |
| Naphthalene | 1088 | 2720 | 340.1 | 1224 | -40 | 27.7 | 108 | 1361 | 0 | 20 | JS,MI |
| Phenanthrene | 19320 | 2720 | 340.1 | 23270 | -1160 | 20.2 | 139 | 20140 | 4.14 | 20 | S,MC |
| Pyrene | 130300 | 2720 | 340.1 | 144900 | -4280 | 26.8 | 142 | 148300 | 12.9 | 20 | S,MC |

| Sample ID: **1110255-13AMSD** | SampType: **MSD** | TestCode: **PAHLL_S** | Units: **µg/Kg-dry** | Prep Date: **11/3/2011** | Run ID: **5973G_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29891** | TestNo: **8270SIM** | | Analysis Date: **11/10/2011** | SeqNo: **792605** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 234.3 | 9.09 | 454.1 | 0 | 51.6 | 33.7 | 111 | 262.5 | 11.3 | 20 | |
| Benzo(g,h,i)perylene | 274.3 | 9.09 | 454.1 | 7.266 | 58.8 | 15 | 128 | 293.4 | 6.72 | 20 | |
| Chrysene | 304.3 | 9.09 | 454.1 | 5.45 | 65.8 | 37.5 | 125 | 322.4 | 5.80 | 20 | |
| Naphthalene | 203.5 | 9.09 | 454.1 | 3.633 | 44 | 27.7 | 108 | 233.4 | 13.7 | 20 | |
| Phenanthrene | 300.6 | 9.09 | 454.1 | 3.633 | 65.4 | 20.2 | 139 | 328.8 | 8.95 | 20 | |
| Pyrene | 412.4 | 9.09 | 454.1 | 9.083 | 88.8 | 26.8 | 142 | 438.7 | 6.19 | 20 | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **CCB-29844** | SampType: **CCB** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973P_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29844** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792141** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Methylnaphthalene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthylene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benz(a)anthracene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(a)pyrene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(b)fluoranthene | 2.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(k)fluoranthene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chrysene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibenz(a,h)anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluoranthene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluorene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Phenanthrene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Pyrene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 2-Fluorobiphenyl | 3098 | 0 | 6667 | 0 | 46.5 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 3137 | 0 | 6667 | 0 | 47.1 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 4063 | 0 | 6667 | 0 | 60.9 | 44.9 | 155 | 0 | 0 | | |

| Sample ID: **CCB-29891** | SampType: **CCB** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973G_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29891** | TestNo: **8270SIM** | | Analysis Date: **11/10/2011** | SeqNo: **792426** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Methylnaphthalene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthylene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **CCB-29891** SampType: **CCB** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5973G_111110A**
Client ID: **ZZZZZ** Batch ID: **29891** TestNo: **8270SIM** Analysis Date: **11/10/2011** SeqNo: **792426**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benz(a)anthracene | 4.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(a)pyrene | 6 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(b)fluoranthene | 4.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 6 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(k)fluoranthene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chrysene | 5.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibenz(a,h)anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluoranthene | 3.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluorene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Phenanthrene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Pyrene | 4.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 2-Fluorobiphenyl | 3834 | 0 | 6667 | 0 | 57.5 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 3874 | 0 | 6667 | 0 | 58.1 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 4933 | 0 | 6667 | 0 | 74 | 44.9 | 155 | 0 | 0 | | |

Sample ID: **CCB-29844** SampType: **CCB** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5973P_111109A**
Client ID: **ZZZZZ** Batch ID: **29844** TestNo: **8270SIM** Analysis Date: **11/10/2011** SeqNo: **792467**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Methylnaphthalene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthylene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Anthracene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benz(a)anthracene | 4.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 5.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(k)fluoranthene | 3.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chrysene | 6 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 4 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **CCB-29844** | SampType: **CCB** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973P_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29844** | TestNo: **8270SIM** | | Analysis Date: **11/10/2011** | SeqNo: **792467** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Fluoranthene | 4.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluorene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 6 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Phenanthrene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Pyrene | 4.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 2-Fluorobiphenyl | 4288 | 0 | 6667 | 0 | 64.3 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 4169 | 0 | 6667 | 0 | 62.5 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 5170 | 0 | 6667 | 0 | 77.5 | 44.9 | 155 | 0 | 0 | | |

| Sample ID: **CCB-29844** | SampType: **CCB** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973P_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29844** | TestNo: **8270SIM** | | Analysis Date: **11/10/2011** | SeqNo: **792596** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzo(a)pyrene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(b)fluoranthene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 2-Fluorobiphenyl | 4130 | 0 | 6667 | 0 | 61.9 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 4423 | 0 | 6667 | 0 | 66.3 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 4875 | 0 | 6667 | 0 | 73.1 | 44.9 | 155 | 0 | 0 | | |

| Sample ID: **CCV-29844** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5975Q_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29844** | TestNo: **8270SIM** | | Analysis Date: **11/4/2011** | SeqNo: **791510** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 347.3 | 6.67 | 333.3 | 0 | 104 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 314.7 | 6.67 | 333.3 | 0 | 94.4 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 305.3 | 6.67 | 333.3 | 0 | 91.6 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 330.7 | 6.67 | 333.3 | 0 | 99.2 | 70 | 130 | 0 | 0 | | |
| Anthracene | 314 | 6.67 | 333.3 | 0 | 94.2 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 320.7 | 6.67 | 333.3 | 0 | 96.2 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 339.3 | 6.67 | 333.3 | 0 | 102 | 70 | 130 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **CCV-29844** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5975Q_111104A**
Client ID: **ZZZZZ** Batch ID: **29844** TestNo: **8270SIM** Analysis Date: **11/4/2011** SeqNo: **791510**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzo(b)fluoranthene | 302.7 | 6.67 | 333.3 | 0 | 90.8 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 300 | 6.67 | 333.3 | 0 | 90 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 317.3 | 6.67 | 333.3 | 0 | 95.2 | 70 | 130 | 0 | 0 | | |
| Chrysene | 317.3 | 6.67 | 333.3 | 0 | 95.2 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 322.7 | 6.67 | 333.3 | 0 | 96.8 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 338.7 | 6.67 | 333.3 | 0 | 102 | 70 | 130 | 0 | 0 | | |
| Fluorene | 338 | 6.67 | 333.3 | 0 | 101 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 338 | 6.67 | 333.3 | 0 | 101 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 320 | 6.67 | 333.3 | 0 | 96 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 312.7 | 6.67 | 333.3 | 0 | 93.8 | 70 | 130 | 0 | 0 | | |
| Pyrene | 326.7 | 6.67 | 333.3 | 0 | 98 | 70 | 130 | 0 | 0 | | |

Sample ID: **CCV-29844** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5973P_111109A**
Client ID: **ZZZZZ** Batch ID: **29844** TestNo: **8270SIM** Analysis Date: **11/9/2011** SeqNo: **792140**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 66 | 6.67 | 66.67 | 0 | 99 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 62 | 6.67 | 66.67 | 0 | 93 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 64.67 | 6.67 | 66.67 | 0 | 97 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 68 | 6.67 | 66.67 | 0 | 102 | 70 | 130 | 0 | 0 | | |
| Anthracene | 69.33 | 6.67 | 66.67 | 0 | 104 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 68.67 | 6.67 | 66.67 | 0 | 103 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 78.67 | 6.67 | 66.67 | 0 | 118 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 64.67 | 6.67 | 66.67 | 0 | 97 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 75.33 | 6.67 | 66.67 | 0 | 113 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 71.33 | 6.67 | 66.67 | 0 | 107 | 70 | 130 | 0 | 0 | | |
| Chrysene | 60 | 6.67 | 66.67 | 0 | 90 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 76.67 | 6.67 | 66.67 | 0 | 115 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 66 | 6.67 | 66.67 | 0 | 99 | 70 | 130 | 0 | 0 | | |
| Fluorene | 64.67 | 6.67 | 66.67 | 0 | 97 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 78.67 | 6.67 | 66.67 | 0 | 118 | 70 | 130 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **CCV-29844** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973P_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29844** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792140** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | 64 | 6.67 | 66.67 | 0 | 96 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 57.33 | 6.67 | 66.67 | 0 | 86 | 70 | 130 | 0 | 0 | | |
| Pyrene | 69.33 | 6.67 | 66.67 | 0 | 104 | 70 | 130 | 0 | 0 | | |

| Sample ID: **CCV-29916** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973G_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29916** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792201** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 66 | 6.67 | 66.67 | 0 | 99 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 74 | 6.67 | 66.67 | 0 | 111 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 63.33 | 6.67 | 66.67 | 0 | 95 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 76.67 | 6.67 | 66.67 | 0 | 115 | 70 | 130 | 0 | 0 | | |
| Anthracene | 72 | 6.67 | 66.67 | 0 | 108 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 72.67 | 6.67 | 66.67 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 74.67 | 6.67 | 66.67 | 0 | 112 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 76.67 | 6.67 | 66.67 | 0 | 115 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 57.33 | 6.67 | 66.67 | 0 | 86 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 70 | 6.67 | 66.67 | 0 | 105 | 70 | 130 | 0 | 0 | | |
| Chrysene | 62 | 6.67 | 66.67 | 0 | 93 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 65.33 | 6.67 | 66.67 | 0 | 98 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 76.67 | 6.67 | 66.67 | 0 | 115 | 70 | 130 | 0 | 0 | | |
| Fluorene | 72.67 | 6.67 | 66.67 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 61.33 | 6.67 | 66.67 | 0 | 92 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 63.33 | 6.67 | 66.67 | 0 | 95 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 69.33 | 6.67 | 66.67 | 0 | 104 | 70 | 130 | 0 | 0 | | |
| Pyrene | 76.67 | 6.67 | 66.67 | 0 | 115 | 70 | 130 | 0 | 0 | | |

| Sample ID: **CCV-29891** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973G_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29891** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792261** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **CCV-29891** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973G_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29891** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792261** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 68.67 | 6.67 | 66.67 | 0 | 103 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 77.33 | 6.67 | 66.67 | 0 | 116 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 64.67 | 6.67 | 66.67 | 0 | 97 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 78 | 6.67 | 66.67 | 0 | 117 | 70 | 130 | 0 | 0 | | |
| Anthracene | 73.33 | 6.67 | 66.67 | 0 | 110 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 74 | 6.67 | 66.67 | 0 | 111 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 72 | 6.67 | 66.67 | 0 | 108 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 76 | 6.67 | 66.67 | 0 | 114 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 57.33 | 6.67 | 66.67 | 0 | 86 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 62.67 | 6.67 | 66.67 | 0 | 94 | 70 | 130 | 0 | 0 | | |
| Chrysene | 64 | 6.67 | 66.67 | 0 | 96 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 62.67 | 6.67 | 66.67 | 0 | 94 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 79.33 | 6.67 | 66.67 | 0 | 119 | 70 | 130 | 0 | 0 | | |
| Fluorene | 75.33 | 6.67 | 66.67 | 0 | 113 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 61.33 | 6.67 | 66.67 | 0 | 92 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 69.33 | 6.67 | 66.67 | 0 | 104 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 68.67 | 6.67 | 66.67 | 0 | 103 | 70 | 130 | 0 | 0 | | |
| Pyrene | 79.33 | 6.67 | 66.67 | 0 | 119 | 70 | 130 | 0 | 0 | | |

| Sample ID: **CCV-29891** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973G_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29891** | TestNo: **8270SIM** | | Analysis Date: **11/10/2011** | SeqNo: **792425** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 60.67 | 6.67 | 66.67 | 0 | 91 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 74.67 | 6.67 | 66.67 | 0 | 112 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 65.33 | 6.67 | 66.67 | 0 | 98 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 82 | 6.67 | 66.67 | 0 | 123 | 70 | 130 | 0 | 0 | | |
| Anthracene | 72.67 | 6.67 | 66.67 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 72.67 | 6.67 | 66.67 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 73.33 | 6.67 | 66.67 | 0 | 110 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 79.33 | 6.67 | 66.67 | 0 | 119 | 70 | 130 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **CCV-29891** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973G_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29891** | TestNo: **8270SIM** | | Analysis Date: **11/10/2011** | SeqNo: **792425** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzo(g,h,i)perylene | 61.33 | 6.67 | 66.67 | 0 | 92 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 64.67 | 6.67 | 66.67 | 0 | 97 | 70 | 130 | 0 | 0 | | |
| Chrysene | 64 | 6.67 | 66.67 | 0 | 96 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 69.33 | 6.67 | 66.67 | 0 | 104 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 73.33 | 6.67 | 66.67 | 0 | 110 | 70 | 130 | 0 | 0 | | |
| Fluorene | 72.67 | 6.67 | 66.67 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 66.67 | 6.67 | 66.67 | 0 | 100 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 69.33 | 6.67 | 66.67 | 0 | 104 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 70 | 6.67 | 66.67 | 0 | 105 | 70 | 130 | 0 | 0 | | |
| Pyrene | 78.67 | 6.67 | 66.67 | 0 | 118 | 70 | 130 | 0 | 0 | | |

| Sample ID: **CCV-29844** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973P_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29844** | TestNo: **8270SIM** | | Analysis Date: **11/10/2011** | SeqNo: **792466** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 71.33 | 6.67 | 66.67 | 0 | 107 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 69.33 | 6.67 | 66.67 | 0 | 104 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 70.67 | 6.67 | 66.67 | 0 | 106 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 74.67 | 6.67 | 66.67 | 0 | 112 | 70 | 130 | 0 | 0 | | |
| Anthracene | 73.33 | 6.67 | 66.67 | 0 | 110 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 78 | 6.67 | 66.67 | 0 | 117 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 76 | 6.67 | 66.67 | 0 | 114 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 76.67 | 6.67 | 66.67 | 0 | 115 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 73.33 | 6.67 | 66.67 | 0 | 110 | 70 | 130 | 0 | 0 | | |
| Chrysene | 64.67 | 6.67 | 66.67 | 0 | 97 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 79.33 | 6.67 | 66.67 | 0 | 119 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 78.67 | 6.67 | 66.67 | 0 | 118 | 70 | 130 | 0 | 0 | | |
| Fluorene | 70 | 6.67 | 66.67 | 0 | 105 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 78 | 6.67 | 66.67 | 0 | 117 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 65.33 | 6.67 | 66.67 | 0 | 98 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 67.33 | 6.67 | 66.67 | 0 | 101 | 70 | 130 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110243
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **CCV-29844** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973P_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29844** | TestNo: **8270SIM** | | Analysis Date: **11/10/2011** | SeqNo: **792466** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pyrene | 76 | 6.67 | 66.67 | 0 | 114 | 70 | 130 | 0 | 0 | | |

| Sample ID: **CCV-29844** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973P_111109A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29844** | TestNo: **8270SIM** | | Analysis Date: **11/10/2011** | SeqNo: **792595** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzo(a)pyrene | 168.7 | 6.67 | 133.3 | 0 | 126 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 150 | 6.67 | 133.3 | 0 | 112 | 70 | 130 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

# KEY TO FLAGS

Rev. May 12, 2010

| | |
|---|---|
| A | This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards |
| A1 | This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards. |
| A2 | This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard. |
| A3 | The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type. |
| A4 | The product appears to be aged or degraded diesel. |
| B | The blank exhibited a positive result great than the reporting limit for this compound. |
| CN | See Case Narrative. |
| D | Result is based from a dilution. |
| E | Result exceeds the calibration range for this compound. The result should be considered as estimate. |
| F | The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library. |
| G | Result may be biased high due to biogenic interferences. Clean up is recommended. |
| H | Sample was analyzed outside recommended holding time. |
| HT | At clients request, samples was analyzed outside of recommended holding time. |
| J | The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration. |
| K | Diesel result is biased high due to amount of Oil contained in the sample. |
| L | Diesel result is biased high due to amount of Gasoline contained in the sample. |
| M | Oil result is biased high due to amount of Diesel contained in the sample. |
| MC | Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant. |
| MI | Result is outside control limits due to matrix interference. |
| MSA | Value determined by Method of Standard Addition. |
| O | Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements. |
| Q | Detection levels elevated due to sample matrix. |
| R | RPD control limits were exceeded. |
| RF | Duplicate failed due to result being at or near the method-reporting limit. |
| RP | Matrix spike values exceed established QC limits; post digestion spike is in control. |
| S | Recovery is outside control limits. |
| SC | Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements. |
| * | The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit. |

# CHAIN OF CUSTODY RECORD



**Specialty Analytical**
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336

* All Samples not ~~Archive~~ analyzed please archive for potential follow-up

Contact Person/Project Manager Alan Hughes / Christina Johnson
Company MFA
Address
Phone Fax
Project No. 0229.04.03 Project Name Port of C/W
Project Site Location OR ____ WA X Other
Invoice To P.O. No.

Collected By:
Signature
Printed Meaghan Gallagher
Signature
Printed

Turn Around Time
☒ Normal 5-7 Business Days
☐ Rush _____
Specify
**Rush Analyses Must Be Scheduled With The Lab In Advance**

**For Laboratory Use**
Lab Job No. 1110243
Shipped Via Specialty
Air Bill No.
Temperature On Receipt ____ °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: Dx (NWTPH) | PAH 8270 SIM | Metals (Total Metals RCRA) | ~~PAH~~ PCB | VOC 8260B | Comp | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/27 | 10:25 | TP-12-S-1.0 | S | 5 | X | | X | | X | | | |
| | 10:30 | TP-12-S-3.0 | | | HOLD | | | | | | | |
| | 10:40 | TP-12-S-5.0 | | | HOLD | | | | | | | |
| | 11:00 | TP-13-S-1.0 | | | X | | X | | X | | | |
| | 11:15 | TP-13-S-3.0 | | | HOLD | | | | | | | |
| | 11:30 | TP-13-S-5.0 | | | HOLD | | | | | | | |
| | 11:40 | TP-14-S-1.0 | | | X | | X | | X | | | |
| | 11:50 | TP-14-S-3.0 | | | HOLD | | | | | | | |
| | 12:05 | TP-14-S-5.0 | | | HOLD | | | | | | | |
| | 12:30 | TP-15-S-1.0 | | | X | | X | | X | | | |
| | 12:40 | TP-15-S-3.0 | | | HOLD | | | | | | | |
| ↓ | 12:55 | TP-15-S-5.0 | ↓ | ↓ | HOLD | | | | | | | |

| Relinquished By: | Date | Time | Received By: | Relinquished By: | Date | Time |
|---|---|---|---|---|---|---|
| Company: MFA | 10/27/11 | 17:08 | Company: Specialty | Company: Specialty | 10/28/11 | 12:10 |
| | | | | Received For Lab By: | Date | Time |
| | | | | Cindy Hilyard | 10/28/11 | 12:10 |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Copies: White-Original Yellow-Project File Pink-Customer Copy

For Specialty

~~APEX LABS~~

# CHAIN OF CUSTODY

Lab # _____ COC 2 of 2

*12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333*

| Company: MFA | Project Mgr: Alan Hughes / Christine Johnson | Project Name: Port of C/W | Project # 0229.04.03 |
|---|---|---|---|
| Address: | Phone: | Fax: | Email: ahughes@maulfoster.com |
| Sampled by: Meagnan Gallagher | | | |

Site Location: OR (WA)

Other: _____

ANALYSIS REQUEST

| | SAMPLE ID | LAB ID # | DATE | TIME | MATRIX | # OF CONTAINERS | NWTPH-HCID | NWTPH-Dx | NWTPH-Gx | 8260 VOC | 8260 RBDM VOCs | 8260 BTEX | 8270 SVOC | 8270 SIM PAHs | 8082 PCBs | 600 TTO | RCRA Metals (8) | TCLP Metals (8) | Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, (Pb), Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL DISS (TCLP) | 1200- COLS | 1200-Z | Comp | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TP-16-S-1.5 | | 10/27 | 13:30 | S | S | HOLD | | | | | | | X | X | | X | | | | | | | | | | | | |
| 2 | TP-16-S-4.0 | | | 13:45 | | | | | | | | | | X | X | | X | | X | | | X | | | | | | | |
| 3 | TP-16-S-10.0 | | | 14:25 | | | HOLD | | | | | | | X | X | | X | | | | | | | | | | | | |
| 4 | TP-17-S-1.5 | | | 14:50 | | | HOLD | | | | | | | X | X | | X | | | | | | | | | | | | |
| 5 | TP-17-S-4.0 | | | 15:05 | | | | | | | | | | X | X | | X | | | | | X | | | | | | | |
| 6 | TP-17-S-10.0 | | | 15:23 | | | HOLD | | | | | | | X | X | | X | | | | | | | | | | | | |
| 7 | TP-18-S-1.5 | | | 15:25 | | | HOLD | | | | | | | | | | | | | | | | | | | | | | |
| 8 | TP-18-S-4.0 | | | 15:55 | | | | | | | | | | X | X | | X | | | | | | | | | | | | |
| 9 | TP-18-S-10.0 | | | 16:05 | | | HOLD | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Comp (TP-16 & TP-17) | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |

Normal Turn Around Time (TAT) = 7-10 Business Days YES NO

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SAMPLES ARE HELD FOR 30 DAYS

SPECIAL INSTRUCTIONS:

All samples not analyzed please archive for potential follow up

| RELINQUISHED BY: | RECEIVED BY: | RELINQUISHED BY: | RECEIVED BY: |
|---|---|---|---|
| Signature: [signature] Date: 10/27 | Signature: [signature] Date: | Signature: [signature] Date: 10/28/14 | Signature: Cindy Hillyard Date: 10/28/14 |
| Printed Name: Meagnan Gallagher Time: 17:05 | Printed Name: Jorge Szymanski Time: 0955 | Printed Name: Jorge Szymanski Time: 12:10 | Printed Name: Cindy Hillyard Time: 12:10 |
| Company: MFA | Company: | Company: Specialty | Company: |

# Specialty Analytical

11711 SE Capps Road
Clackamas, OR 97015
(503) 607-1331
Fax (503) 607-1336


November 11, 2011

Alan Hughes
Maul, Foster & Alongi
400 East Mill Plain Blvd
Suite 400
Vancouver, WA 98660

TEL: (360) 694-2691
FAX: (360) 906-1958

RE: Port of C/W / 0229.04.03

Dear Alan Hughes:

Order No.: 1110255

Specialty Analytical received 33 samples on 10/31/2011 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Cindy Hillyard
Project Manager

Technical Review

# Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-19-S-1.5 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 8:15:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-01 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | 3.90 | 2.24 | | mg/Kg-dry | 1 | 11/3/2011 5:26:40 PM |
| Barium | 171 | 1.12 | | mg/Kg-dry | 1 | 11/3/2011 5:26:40 PM |
| Cadmium | 0.280 | 0.112 | | mg/Kg-dry | 1 | 11/3/2011 5:26:40 PM |
| Chromium | 18.8 | 0.560 | | mg/Kg-dry | 1 | 11/3/2011 5:26:40 PM |
| Lead | 143 | 2.24 | | mg/Kg-dry | 1 | 11/3/2011 5:26:40 PM |
| Selenium | ND | 2.24 | | mg/Kg-dry | 1 | 11/3/2011 5:26:40 PM |
| Silver | ND | 2.24 | | mg/Kg-dry | 1 | 11/4/2011 12:27:03 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.376 | 0.0187 | | mg/Kg-dry | 1 | 11/8/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| 2-Methylnaphthalene | ND | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Acenaphthene | ND | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Acenaphthylene | 12.7 | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Anthracene | 20.9 | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Benz(a)anthracene | 29.9 | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Benzo(a)pyrene | 33.6 | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Benzo(b)fluoranthene | 56.7 | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Benzo(g,h,i)perylene | 29.9 | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Benzo(k)fluoranthene | 13.4 | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Chrysene | 32.1 | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Dibenz(a,h)anthracene | ND | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Fluoranthene | 51.5 | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Fluorene | ND | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Indeno(1,2,3-cd)pyrene | 23.1 | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Naphthalene | 11.9 | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Phenanthrene | 29.9 | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Pyrene | 76.1 | 7.47 | | µg/Kg-dry | 1 | 11/10/2011 11:28:00 AM |
| Surr: 2-Fluorobiphenyl | 71.1 | 42.6-128 | | %REC | 1 | 11/10/2011 11:28:00 AM |
| Surr: Nitrobenzene-d5 | 68.5 | 21.7-155 | | %REC | 1 | 11/10/2011 11:28:00 AM |
| Surr: p-Terphenyl-d14 | 92.4 | 44.9-155 | | %REC | 1 | 11/10/2011 11:28:00 AM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.373 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1221 | ND | 0.373 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1232 | ND | 0.373 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1242 | ND | 0.373 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1248 | ND | 0.373 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1254 | 213 | 1.86 | | µg/Kg-dry | 5 | 11/8/2011 |
| Aroclor 1260 | 444 | 1.86 | | µg/Kg-dry | 5 | 11/8/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-19-S-1.5 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 8:15:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-01 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1262 | ND | 0.373 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1268 | ND | 0.373 | | µg/Kg-dry | 1 | 11/4/2011 |
| Surr: Decachlorobiphenyl | 114 | 56.5-130 | | %REC | 1 | 11/4/2011 |

# Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-19-S-3.5 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 8:25:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-02 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | 3.44 | 2.05 | | mg/Kg-dry | 1 | 11/2/2011 11:59:30 AM |
| Barium | 123 | 1.02 | | mg/Kg-dry | 1 | 11/2/2011 11:59:30 AM |
| Cadmium | 0.225 | 0.102 | | mg/Kg-dry | 1 | 11/2/2011 11:59:30 AM |
| Chromium | 16.0 | 0.511 | | mg/Kg-dry | 1 | 11/2/2011 11:59:30 AM |
| Lead | 212 | 2.05 | | mg/Kg-dry | 1 | 11/2/2011 11:59:30 AM |
| Selenium | ND | 2.05 | | mg/Kg-dry | 1 | 11/2/2011 11:59:30 AM |
| Silver | ND | 2.05 | | mg/Kg-dry | 1 | 11/2/2011 11:59:30 AM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.856 | 0.0782 | | mg/Kg-dry | 5 | 11/3/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| 2-Methylnaphthalene | ND | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Acenaphthene | ND | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Acenaphthylene | 17.4 | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Anthracene | 19.8 | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Benz(a)anthracene | 49.0 | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Benzo(a)pyrene | 60.9 | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Benzo(b)fluoranthene | 85.4 | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Benzo(g,h,i)perylene | 56.1 | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Benzo(k)fluoranthene | 18.2 | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Chrysene | 43.5 | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Dibenz(a,h)anthracene | 16.6 | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Fluoranthene | 69.6 | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Fluorene | ND | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Indeno(1,2,3-cd)pyrene | 43.5 | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Naphthalene | 15.0 | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Phenanthrene | 31.6 | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Pyrene | 99.6 | 7.91 | | µg/Kg-dry | 1 | 11/8/2011 9:02:00 PM |
| Surr: 2-Fluorobiphenyl | 64.8 | 42.6-128 | | %REC | 1 | 11/8/2011 9:02:00 PM |
| Surr: Nitrobenzene-d5 | 62.6 | 21.7-155 | | %REC | 1 | 11/8/2011 9:02:00 PM |
| Surr: p-Terphenyl-d14 | 76.4 | 44.9-155 | | %REC | 1 | 11/8/2011 9:02:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.395 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1221 | ND | 0.395 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1232 | ND | 0.395 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1242 | ND | 0.395 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1248 | ND | 0.395 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1254 | ND | 0.395 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1260 | 546 | 1.98 | | µg/Kg-dry | 5 | 11/2/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-19-S-3.5 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 8:25:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-02 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1262 | ND | 0.395 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1268 | ND | 0.395 | | µg/Kg-dry | 1 | 11/2/2011 |
| Surr: Decachlorobiphenyl | 103 | 56.5-130 | | %REC | 1 | 11/2/2011 |

# Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-19-S-6.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 8:50:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-03 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | ND | 2.45 | | mg/Kg-dry | 1 | 11/3/2011 5:31:40 PM |
| Barium | 239 | 1.23 | | mg/Kg-dry | 1 | 11/3/2011 5:31:40 PM |
| Cadmium | ND | 0.123 | | mg/Kg-dry | 1 | 11/3/2011 5:31:40 PM |
| Chromium | 25.2 | 0.613 | | mg/Kg-dry | 1 | 11/3/2011 5:31:40 PM |
| Lead | 10.5 | 2.45 | | mg/Kg-dry | 1 | 11/3/2011 5:31:40 PM |
| Selenium | ND | 2.45 | | mg/Kg-dry | 1 | 11/3/2011 5:31:40 PM |
| Silver | ND | 2.45 | | mg/Kg-dry | 1 | 11/4/2011 12:32:01 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.0338 | 0.0195 | | mg/Kg-dry | 1 | 11/3/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| 2-Methylnaphthalene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Acenaphthene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Acenaphthylene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Anthracene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Benz(a)anthracene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Benzo(a)pyrene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Benzo(b)fluoranthene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Benzo(g,h,i)perylene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Benzo(k)fluoranthene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Chrysene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Dibenz(a,h)anthracene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Fluoranthene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Fluorene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Indeno(1,2,3-cd)pyrene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Naphthalene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Phenanthrene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Pyrene | ND | 8.83 | | µg/Kg-dry | 1 | 11/10/2011 9:43:00 AM |
| Surr: 2-Fluorobiphenyl | 34.3 | 42.6-128 | S,MI | %REC | 1 | 11/10/2011 9:43:00 AM |
| Surr: Nitrobenzene-d5 | 42.2 | 21.7-155 | | %REC | 1 | 11/10/2011 9:43:00 AM |
| Surr: p-Terphenyl-d14 | 87.3 | 44.9-155 | | %REC | 1 | 11/10/2011 9:43:00 AM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.441 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1221 | ND | 0.441 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1232 | ND | 0.441 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1242 | ND | 0.441 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1248 | ND | 0.441 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1254 | ND | 0.441 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1260 | 16.8 | 0.441 | | µg/Kg-dry | 1 | 11/4/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-19-S-6.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 8:50:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-03 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1262 | ND | 0.441 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1268 | ND | 0.441 | | µg/Kg-dry | 1 | 11/4/2011 |
| Surr: Decachlorobiphenyl | 108 | 56.5-130 | | %REC | 1 | 11/4/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-19-S-10.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 9:00:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-04 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-20-S-1.5 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 9:20:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-05 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

# Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-20-S-4.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 9:30:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-06 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | ND | 2.16 | | mg/Kg-dry | 1 | 11/2/2011 12:04:28 PM |
| Barium | 149 | 1.08 | | mg/Kg-dry | 1 | 11/2/2011 12:04:28 PM |
| Cadmium | 0.237 | 0.108 | | mg/Kg-dry | 1 | 11/2/2011 12:04:28 PM |
| Chromium | 18.2 | 0.540 | | mg/Kg-dry | 1 | 11/2/2011 12:04:28 PM |
| Lead | 178 | 2.16 | | mg/Kg-dry | 1 | 11/2/2011 12:04:28 PM |
| Selenium | ND | 2.16 | | mg/Kg-dry | 1 | 11/2/2011 12:04:28 PM |
| Silver | ND | 2.16 | | mg/Kg-dry | 1 | 11/2/2011 12:04:28 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.771 | 0.0740 | | mg/Kg-dry | 5 | 11/3/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| 2-Methylnaphthalene | 9.73 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Acenaphthene | 62.1 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Acenaphthylene | 18.0 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Anthracene | 54.6 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Benz(a)anthracene | 65.8 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Benzo(a)pyrene | 68.8 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Benzo(b)fluoranthene | 98.0 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Benzo(g,h,i)perylene | 56.9 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Benzo(k)fluoranthene | 19.5 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Chrysene | 61.4 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Dibenz(a,h)anthracene | 25.4 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Fluoranthene | 130 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Fluorene | ND | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Indeno(1,2,3-cd)pyrene | 41.2 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Naphthalene | 19.5 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Phenanthrene | 50.9 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Pyrene | 207 | 7.49 | | µg/Kg-dry | 1 | 11/8/2011 9:54:00 PM |
| Surr: 2-Fluorobiphenyl | 70.2 | 42.6-128 | | %REC | 1 | 11/8/2011 9:54:00 PM |
| Surr: Nitrobenzene-d5 | 68.2 | 21.7-155 | | %REC | 1 | 11/8/2011 9:54:00 PM |
| Surr: p-Terphenyl-d14 | 77.7 | 44.9-155 | | %REC | 1 | 11/8/2011 9:54:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.374 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1221 | ND | 0.374 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1232 | ND | 0.374 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1242 | ND | 0.374 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1248 | ND | 0.374 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1254 | ND | 0.374 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1260 | 1170 | 3.74 | | µg/Kg-dry | 10 | 11/2/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-20-S-4.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 9:30:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-06 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1262 | ND | 0.374 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1268 | ND | 0.374 | | µg/Kg-dry | 1 | 11/2/2011 |
| Surr: Decachlorobiphenyl | 116 | 56.5-130 | | %REC | 1 | 11/2/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-20-S-10.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 9:45:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-07 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.391 | | µg/Kg-dry | 1 | 11/10/2011 |
| Aroclor 1221 | ND | 0.391 | | µg/Kg-dry | 1 | 11/10/2011 |
| Aroclor 1232 | ND | 0.391 | | µg/Kg-dry | 1 | 11/10/2011 |
| Aroclor 1242 | ND | 0.391 | | µg/Kg-dry | 1 | 11/10/2011 |
| Aroclor 1248 | ND | 0.391 | | µg/Kg-dry | 1 | 11/10/2011 |
| Aroclor 1254 | ND | 0.391 | | µg/Kg-dry | 1 | 11/10/2011 |
| Aroclor 1260 | 1.18 | 0.391 | | µg/Kg-dry | 1 | 11/10/2011 |
| Aroclor 1262 | ND | 0.391 | | µg/Kg-dry | 1 | 11/10/2011 |
| Aroclor 1268 | ND | 0.391 | | µg/Kg-dry | 1 | 11/10/2011 |
| Surr: Decachlorobiphenyl | 72.5 | 56.5-130 | | %REC | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-21-S-1.5 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 10:00:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-08 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

# Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-21-S-4.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 10:10:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-09 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | ND | 2.09 | | mg/Kg-dry | 1 | 11/2/2011 12:09:26 PM |
| Barium | 75.6 | 1.04 | | mg/Kg-dry | 1 | 11/2/2011 12:09:26 PM |
| Cadmium | ND | 0.104 | | mg/Kg-dry | 1 | 11/2/2011 12:09:26 PM |
| Chromium | 11.0 | 0.521 | | mg/Kg-dry | 1 | 11/2/2011 12:09:26 PM |
| Lead | 91.4 | 2.09 | | mg/Kg-dry | 1 | 11/2/2011 12:09:26 PM |
| Selenium | ND | 2.09 | | mg/Kg-dry | 1 | 11/2/2011 12:09:26 PM |
| Silver | 2.44 | 2.09 | | mg/Kg-dry | 1 | 11/2/2011 12:09:26 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.825 | 0.0171 | | mg/Kg-dry | 1 | 11/3/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| 2-Methylnaphthalene | 10.5 | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Acenaphthene | ND | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Acenaphthylene | 19.5 | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Anthracene | 28.5 | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Benz(a)anthracene | 45.8 | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Benzo(a)pyrene | 63.8 | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Benzo(b)fluoranthene | 81.8 | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Benzo(g,h,i)perylene | 63.1 | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Benzo(k)fluoranthene | 20.3 | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Chrysene | 47.3 | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Dibenz(a,h)anthracene | 27.0 | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Fluoranthene | 68.3 | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Fluorene | ND | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Indeno(1,2,3-cd)pyrene | 45.0 | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Naphthalene | 18.0 | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Phenanthrene | 45.0 | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Pyrene | 91.6 | 7.51 | | µg/Kg-dry | 1 | 11/8/2011 10:46:00 PM |
| Surr: 2-Fluorobiphenyl | 82.5 | 42.6-128 | | %REC | 1 | 11/8/2011 10:46:00 PM |
| Surr: Nitrobenzene-d5 | 68.3 | 21.7-155 | | %REC | 1 | 11/8/2011 10:46:00 PM |
| Surr: p-Terphenyl-d14 | 89.8 | 44.9-155 | | %REC | 1 | 11/8/2011 10:46:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.375 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1221 | ND | 0.375 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1232 | ND | 0.375 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1242 | ND | 0.375 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1248 | ND | 0.375 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1254 | 465 | 1.87 | | µg/Kg-dry | 5 | 11/2/2011 |
| Aroclor 1260 | 387 | 1.87 | | µg/Kg-dry | 5 | 11/2/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-21-S-4.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 10:10:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-09 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1262 | ND | 0.375 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1268 | ND | 0.375 | | µg/Kg-dry | 1 | 11/2/2011 |
| Surr: Decachlorobiphenyl | 142 | 56.5-130 | S | %REC | 1 | 11/2/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-21-S-10.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 10:21:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-10 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

# Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-22-S-1.5 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 10:40:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-11 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | 2.61 | 2.17 | | mg/Kg-dry | 1 | 11/3/2011 5:41:41 PM |
| Barium | 126 | 1.09 | | mg/Kg-dry | 1 | 11/3/2011 5:41:41 PM |
| Cadmium | 0.163 | 0.109 | | mg/Kg-dry | 1 | 11/3/2011 5:41:41 PM |
| Chromium | 15.4 | 0.543 | | mg/Kg-dry | 1 | 11/3/2011 5:41:41 PM |
| Lead | 12.2 | 2.17 | | mg/Kg-dry | 1 | 11/3/2011 5:41:41 PM |
| Selenium | ND | 2.17 | | mg/Kg-dry | 1 | 11/3/2011 5:41:41 PM |
| Silver | ND | 2.17 | | mg/Kg-dry | 1 | 11/4/2011 12:37:00 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.284 | 0.0150 | | mg/Kg-dry | 1 | 11/8/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| 2-Methylnaphthalene | 15.5 | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Acenaphthene | ND | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Acenaphthylene | 39.1 | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Anthracene | 62.8 | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Benz(a)anthracene | 28.8 | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Benzo(a)pyrene | 45.0 | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Benzo(b)fluoranthene | 70.9 | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Benzo(g,h,i)perylene | 62.0 | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Benzo(k)fluoranthene | 9.60 | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Chrysene | 23.6 | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Dibenz(a,h)anthracene | ND | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Fluoranthene | 47.2 | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Fluorene | ND | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Indeno(1,2,3-cd)pyrene | 26.6 | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Naphthalene | 14.8 | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Phenanthrene | 36.9 | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Pyrene | 80.5 | 7.39 | | µg/Kg-dry | 1 | 11/10/2011 11:55:00 AM |
| Surr: 2-Fluorobiphenyl | 81.6 | 42.6-128 | | %REC | 1 | 11/10/2011 11:55:00 AM |
| Surr: Nitrobenzene-d5 | 78.1 | 21.7-155 | | %REC | 1 | 11/10/2011 11:55:00 AM |
| Surr: p-Terphenyl-d14 | 103 | 44.9-155 | | %REC | 1 | 11/10/2011 11:55:00 AM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.369 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1221 | ND | 0.369 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1232 | ND | 0.369 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1242 | ND | 0.369 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1248 | ND | 0.369 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1254 | 120 | 0.369 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1260 | 202 | 0.369 | | µg/Kg-dry | 1 | 11/4/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-22-S-1.5 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 10:40:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-11 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1262 | ND | 0.369 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1268 | ND | 0.369 | | µg/Kg-dry | 1 | 11/4/2011 |
| Surr: Decachlorobiphenyl | 99.6 | 56.5-130 | | %REC | 1 | 11/4/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-22-S-3.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 10:45:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-12 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | ND | 2.05 | | mg/Kg-dry | 1 | 11/2/2011 12:14:24 PM |
| Barium | 33.5 | 1.02 | | mg/Kg-dry | 1 | 11/2/2011 12:14:24 PM |
| Cadmium | ND | 0.102 | | mg/Kg-dry | 1 | 11/2/2011 12:14:24 PM |
| Chromium | 7.39 | 0.512 | | mg/Kg-dry | 1 | 11/2/2011 12:14:24 PM |
| Lead | 40.3 | 2.05 | | mg/Kg-dry | 1 | 11/2/2011 12:14:24 PM |
| Selenium | ND | 2.05 | | mg/Kg-dry | 1 | 11/2/2011 12:14:24 PM |
| Silver | ND | 2.05 | | mg/Kg-dry | 1 | 11/2/2011 12:14:24 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.211 | 0.0173 | | mg/Kg-dry | 1 | 11/3/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| 2-Methylnaphthalene | 17.7 | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Acenaphthene | ND | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Acenaphthylene | 31.7 | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Anthracene | 45.7 | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Benz(a)anthracene | 30.9 | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Benzo(a)pyrene | 50.1 | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Benzo(b)fluoranthene | 67.8 | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Benzo(g,h,i)perylene | 63.4 | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Benzo(k)fluoranthene | 24.3 | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Chrysene | 33.1 | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Dibenz(a,h)anthracene | 25.8 | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Fluoranthene | 50.1 | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Fluorene | ND | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Indeno(1,2,3-cd)pyrene | 24.3 | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Naphthalene | 15.5 | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Phenanthrene | 36.1 | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Pyrene | 88.4 | 7.37 | | µg/Kg-dry | 1 | 11/8/2011 11:38:00 PM |
| Surr: 2-Fluorobiphenyl | 85.1 | 42.6-128 | | %REC | 1 | 11/8/2011 11:38:00 PM |
| Surr: Nitrobenzene-d5 | 71.7 | 21.7-155 | | %REC | 1 | 11/8/2011 11:38:00 PM |
| Surr: p-Terphenyl-d14 | 97.3 | 44.9-155 | | %REC | 1 | 11/8/2011 11:38:00 PM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.368 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1221 | ND | 0.368 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1232 | ND | 0.368 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1242 | ND | 0.368 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1248 | ND | 0.368 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1254 | 153 | 0.368 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1260 | 187 | 0.368 | | µg/Kg-dry | 1 | 11/2/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-22-S-3.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 10:45:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-12 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1262 | ND | 0.368 | | µg/Kg-dry | 1 | 11/2/2011 |
| Aroclor 1268 | ND | 0.368 | | µg/Kg-dry | 1 | 11/2/2011 |
| Surr: Decachlorobiphenyl | 96.1 | 56.5-130 | | %REC | 1 | 11/2/2011 |

# Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-22-S-10.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 11:20:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-13 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | ND | 2.62 | | mg/Kg-dry | 1 | 11/3/2011 5:36:41 PM |
| Barium | 141 | 1.31 | | mg/Kg-dry | 1 | 11/3/2011 5:36:41 PM |
| Cadmium | 0.183 | 0.131 | | mg/Kg-dry | 1 | 11/3/2011 5:36:41 PM |
| Chromium | 15.0 | 0.655 | | mg/Kg-dry | 1 | 11/3/2011 5:36:41 PM |
| Lead | 94.8 | 2.62 | | mg/Kg-dry | 1 | 11/3/2011 5:36:41 PM |
| Selenium | ND | 2.62 | | mg/Kg-dry | 1 | 11/3/2011 5:36:41 PM |
| Silver | ND | 2.62 | | mg/Kg-dry | 1 | 11/4/2011 12:41:58 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.0433 | 0.0220 | | mg/Kg-dry | 1 | 11/3/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| 2-Methylnaphthalene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Acenaphthene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Acenaphthylene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Anthracene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Benz(a)anthracene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Benzo(a)pyrene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Benzo(b)fluoranthene | 13.6 | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Benzo(g,h,i)perylene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Benzo(k)fluoranthene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Chrysene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Dibenz(a,h)anthracene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Fluoranthene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Fluorene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Indeno(1,2,3-cd)pyrene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Naphthalene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Phenanthrene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Pyrene | ND | 9.09 | | µg/Kg-dry | 1 | 11/10/2011 10:35:00 AM |
| Surr: 2-Fluorobiphenyl | 42.4 | 42.6-128 | S | %REC | 1 | 11/10/2011 10:35:00 AM |
| Surr: Nitrobenzene-d5 | 45.0 | 21.7-155 | | %REC | 1 | 11/10/2011 10:35:00 AM |
| Surr: p-Terphenyl-d14 | 73.9 | 44.9-155 | | %REC | 1 | 11/10/2011 10:35:00 AM |
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1016 | ND | 0.454 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1221 | ND | 0.454 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1232 | ND | 0.454 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1242 | ND | 0.454 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1248 | ND | 0.454 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1254 | ND | 0.454 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1260 | ND | 0.454 | | µg/Kg-dry | 1 | 11/4/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-22-S-10.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 11:20:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-13 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **PCB'S IN SOIL** | | **SW8082** | | | | Analyst: **jrp** |
| Aroclor 1262 | ND | 0.454 | | µg/Kg-dry | 1 | 11/4/2011 |
| Aroclor 1268 | ND | 0.454 | | µg/Kg-dry | 1 | 11/4/2011 |
| Surr: Decachlorobiphenyl | 109 | 56.5-130 | | %REC | 1 | 11/4/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-23-S-3.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 11:55:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-14 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 409 | 23.9 | A1 | mg/Kg-dry | 1 | 11/4/2011 |
| Lube Oil | 502 | 79.6 | A2 | mg/Kg-dry | 1 | 11/4/2011 |
| Surr: o-Terphenyl | 90.2 | 50-150 | | %REC | 1 | 11/4/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | ND | 3.18 | | mg/Kg-dry | 1 | 11/2/2011 11:09:22 AM |
| Barium | 92.2 | 1.59 | | mg/Kg-dry | 1 | 11/2/2011 11:09:22 AM |
| Cadmium | ND | 0.159 | | mg/Kg-dry | 1 | 11/2/2011 11:09:22 AM |
| Chromium | 12.5 | 0.796 | | mg/Kg-dry | 1 | 11/2/2011 11:09:22 AM |
| Lead | 4.51 | 3.18 | | mg/Kg-dry | 1 | 11/2/2011 11:09:22 AM |
| Selenium | ND | 3.18 | | mg/Kg-dry | 1 | 11/2/2011 11:09:22 AM |
| Silver | ND | 3.18 | | mg/Kg-dry | 1 | 11/2/2011 11:09:22 AM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | ND | 0.0235 | | mg/Kg-dry | 1 | 11/3/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | 1430 | 10.6 | | µg/Kg-dry | 1 | 11/8/2011 7:17:00 PM |
| 2-Methylnaphthalene | 1560 | 10.6 | | µg/Kg-dry | 1 | 11/8/2011 7:17:00 PM |
| Acenaphthene | 5870 | 106 | | µg/Kg-dry | 10 | 11/9/2011 11:43:00 AM |
| Acenaphthylene | 31.8 | 10.6 | | µg/Kg-dry | 1 | 11/8/2011 7:17:00 PM |
| Anthracene | 781 | 10.6 | | µg/Kg-dry | 1 | 11/8/2011 7:17:00 PM |
| Benz(a)anthracene | 25.5 | 10.6 | | µg/Kg-dry | 1 | 11/8/2011 7:17:00 PM |
| Benzo(a)pyrene | 27.6 | 10.6 | | µg/Kg-dry | 1 | 11/8/2011 7:17:00 PM |
| Benzo(b)fluoranthene | 38.2 | 10.6 | | µg/Kg-dry | 1 | 11/8/2011 7:17:00 PM |
| Benzo(g,h,i)perylene | ND | 10.6 | | µg/Kg-dry | 1 | 11/8/2011 7:17:00 PM |
| Benzo(k)fluoranthene | 11.7 | 10.6 | | µg/Kg-dry | 1 | 11/8/2011 7:17:00 PM |
| Chrysene | 38.2 | 10.6 | | µg/Kg-dry | 1 | 11/8/2011 7:17:00 PM |
| Dibenz(a,h)anthracene | 12.7 | 10.6 | | µg/Kg-dry | 1 | 11/8/2011 7:17:00 PM |
| Fluoranthene | 816 | 10.6 | | µg/Kg-dry | 1 | 11/8/2011 7:17:00 PM |
| Fluorene | 5150 | 106 | | µg/Kg-dry | 10 | 11/9/2011 11:43:00 AM |
| Indeno(1,2,3-cd)pyrene | 24.4 | 10.6 | | µg/Kg-dry | 1 | 11/8/2011 7:17:00 PM |
| Naphthalene | 243 | 10.6 | | µg/Kg-dry | 1 | 11/8/2011 7:17:00 PM |
| Phenanthrene | 9610 | 106 | | µg/Kg-dry | 10 | 11/9/2011 11:43:00 AM |
| Pyrene | 510 | 10.6 | | µg/Kg-dry | 1 | 11/8/2011 7:17:00 PM |
| Surr: 2-Fluorobiphenyl | 58.5 | 42.6-128 | | %REC | 1 | 11/8/2011 7:17:00 PM |
| Surr: Nitrobenzene-d5 | 58.9 | 21.7-155 | | %REC | 1 | 11/8/2011 7:17:00 PM |
| Surr: p-Terphenyl-d14 | 63.5 | 44.9-155 | | %REC | 1 | 11/8/2011 7:17:00 PM |
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,1,1-Trichloroethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-23-S-3.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 11:55:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-14 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,2-Trichloroethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,1-Dichloroethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,1-Dichloroethene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,1-Dichloropropene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,2,3-Trichlorobenzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,2,3-Trichloropropane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,2,4-Trichlorobenzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,2,4-Trimethylbenzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,2-Dibromoethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,2-Dichlorobenzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,2-Dichloroethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,2-Dichloropropane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,3,5-Trimethylbenzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,3-Dichlorobenzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,3-Dichloropropane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 1,4-Dichlorobenzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 2,2-Dichloropropane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 2-Butanone | ND | 78.3 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 2-Chlorotoluene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 2-Hexanone | ND | 39.2 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 4-Chlorotoluene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 4-Isopropyltoluene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| 4-Methyl-2-pentanone | ND | 78.3 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Acetone | ND | 196 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Benzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Bromobenzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Bromochloromethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Bromodichloromethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Bromoform | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Bromomethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Carbon Disulfide | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Carbon tetrachloride | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Chlorobenzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Chloroethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Chloroform | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Chloromethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| cis-1,2-Dichloroethene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| cis-1,3-Dichloropropene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Dibromochloromethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Dibromomethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-23-S-3.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 11:55:00 AM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-14 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| Dichlorodifluoromethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Ethylbenzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Hexachlorobutadiene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Isopropylbenzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| m,p-Xylene | ND | 39.2 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Methyl tert-butyl ether | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Methylene Chloride | ND | 97.9 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| n-Butylbenzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| n-Propylbenzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Naphthalene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| o-Xylene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| sec-Butylbenzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Styrene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| tert-Butylbenzene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Tetrachloroethene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Toluene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| trans-1,2-Dichloroethene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| trans-1,3-Dichloropropene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Trichloroethene | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Trichlorofluoromethane | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Vinyl Chloride | ND | 19.6 | | ug/Kg-dry | 1 | 11/8/2011 6:59:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 109 | 71.5-112 | | %REC | 1 | 11/8/2011 6:59:00 PM |
| Surr: 4-Bromofluorobenzene | 84.2 | 75.7-122 | | %REC | 1 | 11/8/2011 6:59:00 PM |
| Surr: Dibromofluoromethane | 101 | 64.3-124 | | %REC | 1 | 11/8/2011 6:59:00 PM |
| Surr: Toluene-d8 | 117 | 74.9-120 | | %REC | 1 | 11/8/2011 6:59:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-23-S-5.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 12:10:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-15 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-24-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 12:30:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-16 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 17.6 | | mg/Kg-dry | 1 | 11/4/2011 |
| Lube Oil | 135 | 58.6 | | mg/Kg-dry | 1 | 11/4/2011 |
| Surr: o-Terphenyl | 93.2 | 50-150 | | %REC | 1 | 11/4/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | ND | 2.02 | | mg/Kg-dry | 1 | 11/2/2011 12:19:24 PM |
| Barium | 140 | 1.01 | | mg/Kg-dry | 1 | 11/2/2011 12:19:24 PM |
| Cadmium | ND | 0.101 | | mg/Kg-dry | 1 | 11/2/2011 12:19:24 PM |
| Chromium | 15.0 | 0.505 | | mg/Kg-dry | 1 | 11/2/2011 12:19:24 PM |
| Lead | 20.1 | 2.02 | | mg/Kg-dry | 1 | 11/2/2011 12:19:24 PM |
| Selenium | ND | 2.02 | | mg/Kg-dry | 1 | 11/2/2011 12:19:24 PM |
| Silver | 2.32 | 2.02 | | mg/Kg-dry | 1 | 11/2/2011 12:19:24 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.0384 | 0.0196 | | mg/Kg-dry | 1 | 11/3/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| 2-Methylnaphthalene | ND | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Acenaphthene | ND | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Acenaphthylene | ND | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Anthracene | 10.2 | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Benz(a)anthracene | 16.4 | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Benzo(a)pyrene | 20.3 | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Benzo(b)fluoranthene | 28.9 | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Benzo(g,h,i)perylene | 24.2 | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Benzo(k)fluoranthene | ND | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Chrysene | 21.1 | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Dibenz(a,h)anthracene | ND | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Fluoranthene | 28.1 | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Fluorene | ND | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Indeno(1,2,3-cd)pyrene | 12.5 | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Naphthalene | ND | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Phenanthrene | 11.7 | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Pyrene | 43.0 | 7.82 | | µg/Kg-dry | 1 | 11/9/2011 12:30:00 AM |
| Surr: 2-Fluorobiphenyl | 70.0 | 42.6-128 | | %REC | 1 | 11/9/2011 12:30:00 AM |
| Surr: Nitrobenzene-d5 | 65.4 | 21.7-155 | | %REC | 1 | 11/9/2011 12:30:00 AM |
| Surr: p-Terphenyl-d14 | 80.6 | 44.9-155 | | %REC | 1 | 11/9/2011 12:30:00 AM |
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,1,1-Trichloroethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-24-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 12:30:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-16 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,2-Trichloroethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,1-Dichloroethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,1-Dichloroethene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,1-Dichloropropene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,2,3-Trichlorobenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,2,3-Trichloropropane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,2,4-Trichlorobenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,2,4-Trimethylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,2-Dibromoethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,2-Dichlorobenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,2-Dichloroethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,2-Dichloropropane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,3,5-Trimethylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,3-Dichlorobenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,3-Dichloropropane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 1,4-Dichlorobenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 2,2-Dichloropropane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 2-Butanone | ND | 66.2 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 2-Chlorotoluene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 2-Hexanone | ND | 33.1 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 4-Chlorotoluene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 4-Isopropyltoluene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| 4-Methyl-2-pentanone | ND | 66.2 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Acetone | ND | 166 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Benzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Bromobenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Bromochloromethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Bromodichloromethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Bromoform | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Bromomethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Carbon Disulfide | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Carbon tetrachloride | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Chlorobenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Chloroethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Chloroform | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Chloromethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| cis-1,2-Dichloroethene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| cis-1,3-Dichloropropene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Dibromochloromethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Dibromomethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-24-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 12:30:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-16 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| Dichlorodifluoromethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Ethylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Hexachlorobutadiene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Isopropylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| m,p-Xylene | ND | 33.1 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Methyl tert-butyl ether | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Methylene Chloride | ND | 82.8 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| n-Butylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| n-Propylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Naphthalene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| o-Xylene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| sec-Butylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Styrene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| tert-Butylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Tetrachloroethene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Toluene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| trans-1,2-Dichloroethene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| trans-1,3-Dichloropropene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Trichloroethene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Trichlorofluoromethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Vinyl Chloride | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 6:00:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 106 | 71.5-112 | | %REC | 1 | 11/5/2011 6:00:00 PM |
| Surr: 4-Bromofluorobenzene | 81.7 | 75.7-122 | | %REC | 1 | 11/5/2011 6:00:00 PM |
| Surr: Dibromofluoromethane | 94.9 | 64.3-124 | | %REC | 1 | 11/5/2011 6:00:00 PM |
| Surr: Toluene-d8 | 107 | 74.9-120 | | %REC | 1 | 11/5/2011 6:00:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-24-S-3.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 12:45:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-17 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-24-S-5.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 1:00:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-18 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-25-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 1:20:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-19 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 928 | 16.6 | A1,K | mg/Kg-dry | 1 | 11/4/2011 |
| Lube Oil | 7920 | 552 | | mg/Kg-dry | 10 | 11/4/2011 |
| Surr: o-Terphenyl | 119 | 50-150 | | %REC | 1 | 11/4/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | ND | 1.62 | | mg/Kg-dry | 1 | 11/2/2011 12:24:22 PM |
| Barium | 53.8 | 0.812 | | mg/Kg-dry | 1 | 11/2/2011 12:24:22 PM |
| Cadmium | ND | 0.0812 | | mg/Kg-dry | 1 | 11/2/2011 12:24:22 PM |
| Chromium | 4.52 | 0.406 | | mg/Kg-dry | 1 | 11/2/2011 12:24:22 PM |
| Lead | ND | 1.62 | | mg/Kg-dry | 1 | 11/2/2011 12:24:22 PM |
| Selenium | ND | 1.62 | | mg/Kg-dry | 1 | 11/2/2011 12:24:22 PM |
| Silver | 2.55 | 1.62 | | mg/Kg-dry | 1 | 11/2/2011 12:24:22 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.0213 | 0.0184 | | mg/Kg-dry | 1 | 11/3/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| 2-Methylnaphthalene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Acenaphthene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Acenaphthylene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Anthracene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Benz(a)anthracene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Benzo(a)pyrene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Benzo(b)fluoranthene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Benzo(g,h,i)perylene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Benzo(k)fluoranthene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Chrysene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Dibenz(a,h)anthracene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Fluoranthene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Fluorene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Indeno(1,2,3-cd)pyrene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Naphthalene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Phenanthrene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Pyrene | ND | 7.36 | | µg/Kg-dry | 1 | 11/8/2011 7:43:00 PM |
| Surr: 2-Fluorobiphenyl | 77.4 | 42.6-128 | | %REC | 1 | 11/8/2011 7:43:00 PM |
| Surr: Nitrobenzene-d5 | 70.7 | 21.7-155 | | %REC | 1 | 11/8/2011 7:43:00 PM |
| Surr: p-Terphenyl-d14 | 71.3 | 44.9-155 | | %REC | 1 | 11/8/2011 7:43:00 PM |
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| 1,1,1-Trichloroethane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| 1,1,2,2-Tetrachloroethane | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-25-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 1:20:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-19 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,2-Trichloroethane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| 1,1-Dichloroethane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| 1,1-Dichloroethene | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| 1,1-Dichloropropene | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| 1,2,3-Trichlorobenzene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| 1,2,3-Trichloropropane | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| 1,2,4-Trichlorobenzene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| 1,2,4-Trimethylbenzene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| 1,2-Dibromoethane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| 1,2-Dichlorobenzene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| 1,2-Dichloroethane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| 1,2-Dichloropropane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| 1,3,5-Trimethylbenzene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| 1,3-Dichlorobenzene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| 1,3-Dichloropropane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| 1,4-Dichlorobenzene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| 2,2-Dichloropropane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| 2-Butanone | ND | 37.9 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| 2-Chlorotoluene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| 2-Hexanone | 223 | 18.9 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| 4-Chlorotoluene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| 4-Isopropyltoluene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| 4-Methyl-2-pentanone | ND | 37.9 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Acetone | 116 | 94.7 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Benzene | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Bromobenzene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| Bromochloromethane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Bromodichloromethane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Bromoform | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Bromomethane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Carbon Disulfide | 10.9 | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Carbon tetrachloride | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Chlorobenzene | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Chloroethane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Chloroform | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Chloromethane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| cis-1,2-Dichloroethene | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| cis-1,3-Dichloropropene | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Dibromochloromethane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Dibromomethane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-25-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 1:20:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-19 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| Dichlorodifluoromethane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Ethylbenzene | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Hexachlorobutadiene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| Isopropylbenzene | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| m,p-Xylene | ND | 18.9 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Methyl tert-butyl ether | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Methylene Chloride | ND | 47.4 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| n-Butylbenzene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| n-Propylbenzene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| Naphthalene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| o-Xylene | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| sec-Butylbenzene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| Styrene | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| tert-Butylbenzene | ND | 55.2 | Q | ug/Kg-dry | 5 | 11/10/2011 12:58:00 PM |
| Tetrachloroethene | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Toluene | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| trans-1,2-Dichloroethene | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| trans-1,3-Dichloropropene | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Trichloroethene | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Trichlorofluoromethane | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Vinyl Chloride | ND | 9.47 | | ug/Kg-dry | 1 | 11/10/2011 11:42:00 AM |
| Surr: 1,2-Dichloroethane-d4 | 120 | 71.5-112 | S | %REC | 1 | 11/10/2011 11:42:00 AM |
| Surr: 4-Bromofluorobenzene | 82.6 | 75.7-122 | | %REC | 1 | 11/10/2011 11:42:00 AM |
| Surr: Dibromofluoromethane | 117 | 64.3-124 | | %REC | 1 | 11/10/2011 11:42:00 AM |
| Surr: Toluene-d8 | 113 | 74.9-120 | | %REC | 1 | 11/10/2011 11:42:00 AM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-25-S-3.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 1:30:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-20 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **kh** |
| Diesel | 21.3 | 18.1 | | mg/Kg-dry | 1 | 11/10/2011 |
| Lube Oil | 101 | 60.2 | | mg/Kg-dry | 1 | 11/10/2011 |
| Surr: o-Terphenyl | 86.4 | 50-150 | | %REC | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-25-S-5.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 1:40:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-21 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

# Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-26-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 2:05:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-22 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 19.1 | | mg/Kg-dry | 1 | 11/4/2011 |
| Lube Oil | ND | 63.5 | | mg/Kg-dry | 1 | 11/4/2011 |
| Surr: o-Terphenyl | 77.5 | 50-150 | | %REC | 1 | 11/4/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | 3.37 | 2.44 | | mg/Kg-dry | 1 | 11/2/2011 12:29:21 PM |
| Barium | 67.0 | 1.22 | | mg/Kg-dry | 1 | 11/2/2011 12:29:21 PM |
| Cadmium | ND | 0.122 | | mg/Kg-dry | 1 | 11/2/2011 12:29:21 PM |
| Chromium | 17.1 | 0.611 | | mg/Kg-dry | 1 | 11/2/2011 12:29:21 PM |
| Lead | 2.88 | 2.44 | | mg/Kg-dry | 1 | 11/2/2011 12:29:21 PM |
| Selenium | ND | 2.44 | | mg/Kg-dry | 1 | 11/2/2011 12:29:21 PM |
| Silver | ND | 2.44 | | mg/Kg-dry | 1 | 11/2/2011 12:29:21 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | ND | 0.0182 | | mg/Kg-dry | 1 | 11/3/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| 2-Methylnaphthalene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Acenaphthene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Acenaphthylene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Anthracene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Benz(a)anthracene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Benzo(a)pyrene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Benzo(b)fluoranthene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Benzo(g,h,i)perylene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Benzo(k)fluoranthene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Chrysene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Dibenz(a,h)anthracene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Fluoranthene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Fluorene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Indeno(1,2,3-cd)pyrene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Naphthalene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Phenanthrene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Pyrene | ND | 8.48 | | µg/Kg-dry | 1 | 11/8/2011 6:51:00 PM |
| Surr: 2-Fluorobiphenyl | 61.4 | 42.6-128 | | %REC | 1 | 11/8/2011 6:51:00 PM |
| Surr: Nitrobenzene-d5 | 51.8 | 21.7-155 | | %REC | 1 | 11/8/2011 6:51:00 PM |
| Surr: p-Terphenyl-d14 | 79.0 | 44.9-155 | | %REC | 1 | 11/8/2011 6:51:00 PM |
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,1,1-Trichloroethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-26-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 2:05:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-22 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,2-Trichloroethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,1-Dichloroethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,1-Dichloroethene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,1-Dichloropropene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,2,3-Trichlorobenzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,2,3-Trichloropropane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,2,4-Trichlorobenzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,2,4-Trimethylbenzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,2-Dibromoethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,2-Dichlorobenzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,2-Dichloroethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,2-Dichloropropane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,3,5-Trimethylbenzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,3-Dichlorobenzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,3-Dichloropropane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 1,4-Dichlorobenzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 2,2-Dichloropropane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 2-Butanone | ND | 39.6 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 2-Chlorotoluene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 2-Hexanone | ND | 19.8 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 4-Chlorotoluene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 4-Isopropyltoluene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| 4-Methyl-2-pentanone | ND | 39.6 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Acetone | ND | 99.1 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Benzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Bromobenzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Bromochloromethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Bromodichloromethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Bromoform | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Bromomethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Carbon Disulfide | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Carbon tetrachloride | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Chlorobenzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Chloroethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Chloroform | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Chloromethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| cis-1,2-Dichloroethene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| cis-1,3-Dichloropropene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Dibromochloromethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Dibromomethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-26-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 2:05:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-22 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| Dichlorodifluoromethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Ethylbenzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Hexachlorobutadiene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Isopropylbenzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| m,p-Xylene | ND | 19.8 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Methyl tert-butyl ether | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Methylene Chloride | ND | 49.5 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| n-Butylbenzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| n-Propylbenzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Naphthalene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| o-Xylene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| sec-Butylbenzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Styrene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| tert-Butylbenzene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Tetrachloroethene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Toluene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| trans-1,2-Dichloroethene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| trans-1,3-Dichloropropene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Trichloroethene | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Trichlorofluoromethane | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Vinyl Chloride | ND | 9.91 | | ug/Kg-dry | 1 | 11/8/2011 8:10:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 109 | 71.5-112 | | %REC | 1 | 11/8/2011 8:10:00 PM |
| Surr: 4-Bromofluorobenzene | 84.5 | 75.7-122 | | %REC | 1 | 11/8/2011 8:10:00 PM |
| Surr: Dibromofluoromethane | 102 | 64.3-124 | | %REC | 1 | 11/8/2011 8:10:00 PM |
| Surr: Toluene-d8 | 115 | 74.9-120 | | %REC | 1 | 11/8/2011 8:10:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-26-S-3.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 2:10:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-23 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-26-S-5.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 2:15:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-24 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

# Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-27-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 2:30:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-25 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 18.6 | | mg/Kg-dry | 1 | 11/4/2011 |
| Lube Oil | ND | 62.0 | | mg/Kg-dry | 1 | 11/4/2011 |
| Surr: o-Terphenyl | 74.0 | 50-150 | | %REC | 1 | 11/4/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | 4.32 | 2.48 | | mg/Kg-dry | 1 | 11/2/2011 12:54:52 PM |
| Barium | 102 | 1.24 | | mg/Kg-dry | 1 | 11/2/2011 12:54:52 PM |
| Cadmium | ND | 0.124 | | mg/Kg-dry | 1 | 11/2/2011 12:54:52 PM |
| Chromium | 14.6 | 0.620 | | mg/Kg-dry | 1 | 11/2/2011 12:54:52 PM |
| Lead | 6.79 | 2.48 | | mg/Kg-dry | 1 | 11/2/2011 12:54:52 PM |
| Selenium | ND | 2.48 | | mg/Kg-dry | 1 | 11/2/2011 12:54:52 PM |
| Silver | ND | 2.48 | | mg/Kg-dry | 1 | 11/2/2011 12:54:52 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | ND | 0.0194 | | mg/Kg-dry | 1 | 11/3/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| 2-Methylnaphthalene | ND | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Acenaphthene | ND | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Acenaphthylene | ND | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Anthracene | ND | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Benz(a)anthracene | 22.3 | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Benzo(a)pyrene | 52.0 | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Benzo(b)fluoranthene | 149 | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Benzo(g,h,i)perylene | 75.2 | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Benzo(k)fluoranthene | 35.5 | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Chrysene | 47.9 | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Dibenz(a,h)anthracene | 28.1 | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Fluoranthene | 14.9 | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Fluorene | ND | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Indeno(1,2,3-cd)pyrene | 43.8 | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Naphthalene | ND | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Phenanthrene | ND | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Pyrene | 14.0 | 8.27 | | µg/Kg-dry | 1 | 11/8/2011 5:32:00 PM |
| Surr: 2-Fluorobiphenyl | 65.3 | 42.6-128 | | %REC | 1 | 11/8/2011 5:32:00 PM |
| Surr: Nitrobenzene-d5 | 51.9 | 21.7-155 | | %REC | 1 | 11/8/2011 5:32:00 PM |
| Surr: p-Terphenyl-d14 | 80.5 | 44.9-155 | | %REC | 1 | 11/8/2011 5:32:00 PM |
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,1,1-Trichloroethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-27-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 2:30:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-25 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,2-Trichloroethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,1-Dichloroethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,1-Dichloroethene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,1-Dichloropropene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,2,3-Trichlorobenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,2,3-Trichloropropane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,2,4-Trichlorobenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,2,4-Trimethylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,2-Dibromoethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,2-Dichlorobenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,2-Dichloroethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,2-Dichloropropane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,3,5-Trimethylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,3-Dichlorobenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,3-Dichloropropane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 1,4-Dichlorobenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 2,2-Dichloropropane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 2-Butanone | ND | 66.5 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 2-Chlorotoluene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 2-Hexanone | ND | 33.2 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 4-Chlorotoluene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 4-Isopropyltoluene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| 4-Methyl-2-pentanone | ND | 66.5 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Acetone | ND | 166 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Benzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Bromobenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Bromochloromethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Bromodichloromethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Bromoform | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Bromomethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Carbon Disulfide | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Carbon tetrachloride | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Chlorobenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Chloroethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Chloroform | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Chloromethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| cis-1,2-Dichloroethene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| cis-1,3-Dichloropropene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Dibromochloromethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Dibromomethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-27-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 2:30:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-25 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| Dichlorodifluoromethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Ethylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Hexachlorobutadiene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Isopropylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| m,p-Xylene | ND | 33.2 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Methyl tert-butyl ether | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Methylene Chloride | ND | 83.1 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| n-Butylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| n-Propylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Naphthalene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| o-Xylene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| sec-Butylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Styrene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| tert-Butylbenzene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Tetrachloroethene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Toluene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| trans-1,2-Dichloroethene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| trans-1,3-Dichloropropene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Trichloroethene | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Trichlorofluoromethane | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Vinyl Chloride | ND | 16.6 | | ug/Kg-dry | 1 | 11/5/2011 7:43:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 109 | 71.5-112 | | %REC | 1 | 11/5/2011 7:43:00 PM |
| Surr: 4-Bromofluorobenzene | 84.9 | 75.7-122 | | %REC | 1 | 11/5/2011 7:43:00 PM |
| Surr: Dibromofluoromethane | 98.9 | 64.3-124 | | %REC | 1 | 11/5/2011 7:43:00 PM |
| Surr: Toluene-d8 | 115 | 74.9-120 | | %REC | 1 | 11/5/2011 7:43:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-27-S-3.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 2:35:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-26 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-27-S-5.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 2:45:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-27 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

# Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-28-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 3:00:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-28 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | ND | 18.1 | | mg/Kg-dry | 1 | 11/4/2011 |
| Lube Oil | ND | 60.5 | | mg/Kg-dry | 1 | 11/4/2011 |
| Surr: o-Terphenyl | 80.2 | 50-150 | | %REC | 1 | 11/4/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | 2.24 | 2.08 | | mg/Kg-dry | 1 | 11/2/2011 12:59:51 PM |
| Barium | 114 | 1.04 | | mg/Kg-dry | 1 | 11/2/2011 12:59:51 PM |
| Cadmium | ND | 0.104 | | mg/Kg-dry | 1 | 11/2/2011 12:59:51 PM |
| Chromium | 18.4 | 0.521 | | mg/Kg-dry | 1 | 11/2/2011 12:59:51 PM |
| Lead | 2.94 | 2.08 | | mg/Kg-dry | 1 | 11/2/2011 12:59:51 PM |
| Selenium | ND | 2.08 | | mg/Kg-dry | 1 | 11/2/2011 12:59:51 PM |
| Silver | ND | 2.08 | | mg/Kg-dry | 1 | 11/2/2011 12:59:51 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.0244 | 0.0195 | | mg/Kg-dry | 1 | 11/3/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| 2-Methylnaphthalene | ND | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Acenaphthene | ND | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Acenaphthylene | ND | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Anthracene | ND | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Benz(a)anthracene | ND | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Benzo(a)pyrene | 9.67 | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Benzo(b)fluoranthene | ND | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Benzo(g,h,i)perylene | 9.67 | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Benzo(k)fluoranthene | ND | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Chrysene | ND | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Dibenz(a,h)anthracene | 8.87 | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Fluoranthene | ND | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Fluorene | ND | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Indeno(1,2,3-cd)pyrene | ND | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Naphthalene | ND | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Phenanthrene | ND | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Pyrene | ND | 8.07 | | µg/Kg-dry | 1 | 11/8/2011 5:06:00 PM |
| Surr: 2-Fluorobiphenyl | 65.1 | 42.6-128 | | %REC | 1 | 11/8/2011 5:06:00 PM |
| Surr: Nitrobenzene-d5 | 55.1 | 21.7-155 | | %REC | 1 | 11/8/2011 5:06:00 PM |
| Surr: p-Terphenyl-d14 | 88.7 | 44.9-155 | | %REC | 1 | 11/8/2011 5:06:00 PM |
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,1,1-Trichloroethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-28-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 3:00:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-28 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,2-Trichloroethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,1-Dichloroethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,1-Dichloroethene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,1-Dichloropropene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,2,3-Trichlorobenzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,2,3-Trichloropropane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,2,4-Trichlorobenzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,2,4-Trimethylbenzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,2-Dibromoethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,2-Dichlorobenzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,2-Dichloroethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,2-Dichloropropane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,3,5-Trimethylbenzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,3-Dichlorobenzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,3-Dichloropropane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 1,4-Dichlorobenzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 2,2-Dichloropropane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 2-Butanone | ND | 41.9 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 2-Chlorotoluene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 2-Hexanone | ND | 20.9 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 4-Chlorotoluene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 4-Isopropyltoluene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| 4-Methyl-2-pentanone | ND | 41.9 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Acetone | ND | 105 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Benzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Bromobenzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Bromochloromethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Bromodichloromethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Bromoform | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Bromomethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Carbon Disulfide | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Carbon tetrachloride | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Chlorobenzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Chloroethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Chloroform | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Chloromethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| cis-1,2-Dichloroethene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| cis-1,3-Dichloropropene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Dibromochloromethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Dibromomethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-28-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 3:00:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-28 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| Dichlorodifluoromethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Ethylbenzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Hexachlorobutadiene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Isopropylbenzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| m,p-Xylene | ND | 20.9 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Methyl tert-butyl ether | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Methylene Chloride | ND | 52.3 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| n-Butylbenzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| n-Propylbenzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Naphthalene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| o-Xylene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| sec-Butylbenzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Styrene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| tert-Butylbenzene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Tetrachloroethene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Toluene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| trans-1,2-Dichloroethene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| trans-1,3-Dichloropropene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Trichloroethene | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Trichlorofluoromethane | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Vinyl Chloride | ND | 10.5 | | ug/Kg-dry | 1 | 11/8/2011 8:46:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 109 | 71.5-112 | | %REC | 1 | 11/8/2011 8:46:00 PM |
| Surr: 4-Bromofluorobenzene | 85.4 | 75.7-122 | | %REC | 1 | 11/8/2011 8:46:00 PM |
| Surr: Dibromofluoromethane | 102 | 64.3-124 | | %REC | 1 | 11/8/2011 8:46:00 PM |
| Surr: Toluene-d8 | 119 | 74.9-120 | | %REC | 1 | 11/8/2011 8:46:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-28-S-3.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 3:10:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-29 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-28-S-5.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 3:15:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-30 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

# Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-29-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 3:30:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-31 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **NWTPH-DX** | | **NWTPH-DX** | | | | Analyst: **jrp** |
| Diesel | 83.7 | 17.6 | | mg/Kg-dry | 1 | 11/4/2011 |
| Lube Oil | 757 | 58.6 | | mg/Kg-dry | 1 | 11/4/2011 |
| Surr: o-Terphenyl | 81.4 | 50-150 | | %REC | 1 | 11/4/2011 |
| **TOTAL METALS BY ICP** | | **E6010** | | | | Analyst: **cmt** |
| Arsenic | 2.00 | 1.95 | | mg/Kg-dry | 1 | 11/2/2011 1:04:51 PM |
| Barium | 47.9 | 0.977 | | mg/Kg-dry | 1 | 11/2/2011 1:04:51 PM |
| Cadmium | 0.352 | 0.0977 | | mg/Kg-dry | 1 | 11/2/2011 1:04:51 PM |
| Chromium | 10.8 | 0.488 | | mg/Kg-dry | 1 | 11/2/2011 1:04:51 PM |
| Lead | 109 | 1.95 | | mg/Kg-dry | 1 | 11/2/2011 1:04:51 PM |
| Selenium | ND | 1.95 | | mg/Kg-dry | 1 | 11/2/2011 1:04:51 PM |
| Silver | ND | 1.95 | | mg/Kg-dry | 1 | 11/2/2011 1:04:51 PM |
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 2.12 | 0.168 | | mg/Kg-dry | 10 | 11/3/2011 |
| **LOW LEVEL PAH BY GC/MS** | | **8270SIM** | | | | Analyst: **bda** |
| 1-Methylnaphthalene | ND | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| 2-Methylnaphthalene | ND | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Acenaphthene | ND | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Acenaphthylene | ND | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Anthracene | 20.3 | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Benz(a)anthracene | 58.6 | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Benzo(a)pyrene | 39.1 | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Benzo(b)fluoranthene | 186 | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Benzo(g,h,i)perylene | 77.4 | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Benzo(k)fluoranthene | 21.9 | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Chrysene | 77.4 | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Dibenz(a,h)anthracene | ND | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Fluoranthene | 138 | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Fluorene | ND | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Indeno(1,2,3-cd)pyrene | 49.2 | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Naphthalene | 11.7 | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Phenanthrene | 47.7 | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Pyrene | 131 | 7.82 | | µg/Kg-dry | 1 | 11/8/2011 8:09:00 PM |
| Surr: 2-Fluorobiphenyl | 74.0 | 42.6-128 | | %REC | 1 | 11/8/2011 8:09:00 PM |
| Surr: Nitrobenzene-d5 | 57.5 | 21.7-155 | | %REC | 1 | 11/8/2011 8:09:00 PM |
| Surr: p-Terphenyl-d14 | 89.4 | 44.9-155 | | %REC | 1 | 11/8/2011 8:09:00 PM |
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,1,2-Tetrachloroethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,1,1-Trichloroethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-29-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 3:30:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-31 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| 1,1,2-Trichloroethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,1-Dichloroethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,1-Dichloroethene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,1-Dichloropropene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,2,3-Trichlorobenzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,2,3-Trichloropropane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,2,4-Trichlorobenzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,2,4-Trimethylbenzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,2-Dibromo-3-chloropropane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,2-Dibromoethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,2-Dichlorobenzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,2-Dichloroethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,2-Dichloropropane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,3,5-Trimethylbenzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,3-Dichlorobenzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,3-Dichloropropane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 1,4-Dichlorobenzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 2,2-Dichloropropane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 2-Butanone | ND | 64.3 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 2-Chlorotoluene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 2-Hexanone | ND | 32.2 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 4-Chlorotoluene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 4-Isopropyltoluene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| 4-Methyl-2-pentanone | ND | 64.3 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Acetone | ND | 161 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Benzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Bromobenzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Bromochloromethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Bromodichloromethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Bromoform | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Bromomethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Carbon Disulfide | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Carbon tetrachloride | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Chlorobenzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Chloroethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Chloroform | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Chloromethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| cis-1,2-Dichloroethene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| cis-1,3-Dichloropropene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Dibromochloromethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Dibromomethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |

# Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-29-S-1.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 3:30:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-31 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES BY GC/MS** | | **SW8260B** | | | | Analyst: **rkg** |
| Dichlorodifluoromethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Ethylbenzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Hexachlorobutadiene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Isopropylbenzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| m,p-Xylene | ND | 32.2 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Methyl tert-butyl ether | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Methylene Chloride | ND | 80.4 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| n-Butylbenzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| n-Propylbenzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Naphthalene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| o-Xylene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| sec-Butylbenzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Styrene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| tert-Butylbenzene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Tetrachloroethene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Toluene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| trans-1,2-Dichloroethene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| trans-1,3-Dichloropropene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Trichloroethene | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Trichlorofluoromethane | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Vinyl Chloride | ND | 16.1 | | ug/Kg-dry | 1 | 11/8/2011 9:21:00 PM |
| Surr: 1,2-Dichloroethane-d4 | 97.9 | 71.5-112 | | %REC | 1 | 11/8/2011 9:21:00 PM |
| Surr: 4-Bromofluorobenzene | 82.3 | 75.7-122 | | %REC | 1 | 11/8/2011 9:21:00 PM |
| Surr: Dibromofluoromethane | 98.8 | 64.3-124 | | %REC | 1 | 11/8/2011 9:21:00 PM |
| Surr: Toluene-d8 | 126 | 74.9-120 | S | %REC | 1 | 11/8/2011 9:21:00 PM |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-29-S-3.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 3:35:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-32 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **MERCURY, TOTAL** | | **SW7471** | | | | Analyst: **zau** |
| Mercury | 0.123 | 0.0163 | | mg/Kg-dry | 1 | 11/8/2011 |

## Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | TP-29-S-5.0 |
| **Lab Order:** | 1110255 | **Collection Date:** | 10/28/2011 3:45:00 PM |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1110255-33 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **HOLD PER CLIENT REQUEST** | | **PER CLIENT** | | | | Analyst: **knt** |
| Hold | Hold | | | | 1 | 11/10/2011 |

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **MBLK-29872** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/1/2011** | Run ID: **TJA IRIS_111102D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29872** | TestNo: **E6010** | | Analysis Date: **11/2/2011** | SeqNo: **790254** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 2.00 | | | | | | | | | |
| Barium | ND | 1.00 | | | | | | | | | |
| Cadmium | ND | 0.100 | | | | | | | | | |
| Chromium | ND | 0.500 | | | | | | | | | |
| Lead | ND | 2.00 | | | | | | | | | |
| Selenium | ND | 2.00 | | | | | | | | | |
| Silver | ND | 2.00 | | | | | | | | | |

| Sample ID: **MBLK-29879** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/2/2011** | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/3/2011** | SeqNo: **790852** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 2.00 | | | | | | | | | |
| Barium | ND | 1.00 | | | | | | | | | |
| Cadmium | ND | 0.100 | | | | | | | | | |
| Chromium | ND | 0.500 | | | | | | | | | |
| Lead | ND | 2.00 | | | | | | | | | |
| Selenium | ND | 2.00 | | | | | | | | | |

| Sample ID: **MBLK-29879** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/2/2011** | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/4/2011** | SeqNo: **791090** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | ND | 2.00 | | | | | | | | | |

| Sample ID: **LCS-29872** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/1/2011** | Run ID: **TJA IRIS_111102D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29872** | TestNo: **E6010** | | Analysis Date: **11/2/2011** | SeqNo: **790255** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **LCS-29872** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/1/2011** | Run ID: **TJA IRIS_111102D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29872** | TestNo: **E6010** | | Analysis Date: **11/2/2011** | SeqNo: **790255** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 89.7 | 2.00 | 100 | 0 | 89.7 | 85.1 | 107 | 0 | 0 | | |
| Barium | 46.26 | 1.00 | 50 | 0 | 92.5 | 85.7 | 110 | 0 | 0 | | |
| Cadmium | 4.57 | 0.100 | 5 | 0 | 91.4 | 87.2 | 109 | 0 | 0 | | |
| Chromium | 23.96 | 0.500 | 25 | 0 | 95.8 | 84 | 113 | 0 | 0 | | |
| Lead | 93.55 | 2.00 | 100 | 0 | 93.6 | 84.9 | 109 | 0 | 0 | | |
| Selenium | 90.36 | 2.00 | 100 | 0 | 90.4 | 88.7 | 111 | 0 | 0 | | |
| Silver | 42.56 | 2.00 | 50 | 0 | 85.1 | 79.3 | 109 | 0 | 0 | | |

| Sample ID: **LCS-29879** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/2/2011** | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/3/2011** | SeqNo: **790854** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.6 | 2.00 | 100 | 0 | 96.6 | 85.1 | 107 | 0 | 0 | | |
| Barium | 50.18 | 1.00 | 50 | 0 | 100 | 85.7 | 110 | 0 | 0 | | |
| Cadmium | 4.92 | 0.100 | 5 | 0 | 98.4 | 87.2 | 109 | 0 | 0 | | |
| Chromium | 25.46 | 0.500 | 25 | 0 | 102 | 84 | 113 | 0 | 0 | | |
| Lead | 99.77 | 2.00 | 100 | 0 | 99.8 | 84.9 | 109 | 0 | 0 | | |
| Selenium | 96.2 | 2.00 | 100 | 0 | 96.2 | 88.7 | 111 | 0 | 0 | | |

| Sample ID: **LCS-29879** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/2/2011** | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/4/2011** | SeqNo: **791091** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 49.28 | 2.00 | 50 | 0 | 98.6 | 79.3 | 109 | 0 | 0 | | |

| Sample ID: **1110255-14AMS** | SampType: **MS** | TestCode: **6010_S** | Units: **mg/Kg-dry** | Prep Date: **11/1/2011** | Run ID: **TJA IRIS_111102D** |
|---|---|---|---|---|---|
| Client ID: **TP-23-S-3.0** | Batch ID: **29872** | TestNo: **E6010** | | Analysis Date: **11/2/2011** | SeqNo: **790258** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 127.4 | 3.18 | 159.2 | 0 | 80 | 86.1 | 109 | 0 | 0 | | S |
| Barium | 171.2 | 1.59 | 79.62 | 92.17 | 99.2 | 75 | 125 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **1110255-14AMS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **11/1/2011** Run ID: **TJA IRIS_111102D**
Client ID: **TP-23-S-3.0** Batch ID: **29872** TestNo: **E6010** Analysis Date: **11/2/2011** SeqNo: **790258**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cadmium | 6.624 | 0.159 | 7.962 | 0.1115 | 81.8 | 86.4 | 113 | 0 | 0 | | S |
| Chromium | 48.15 | 0.796 | 39.81 | 12.47 | 89.6 | 75 | 121 | 0 | 0 | | |
| Lead | 132 | 3.18 | 159.2 | 4.506 | 80 | 84.9 | 109 | 0 | 0 | | S |
| Selenium | 129.3 | 3.18 | 159.2 | 0 | 81.2 | 77.7 | 116 | 0 | 0 | | |
| Silver | 64.41 | 3.18 | 79.62 | 1.561 | 78.9 | 75 | 123 | 0 | 0 | | |

Sample ID: **1111006-02AMS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **11/2/2011** Run ID: **TJA IRIS_111103E**
Client ID: **ZZZZZ** Batch ID: **29879** TestNo: **E6010** Analysis Date: **11/3/2011** SeqNo: **790859**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 86.83 | 1.85 | 92.59 | 0.9818 | 92.7 | 86.1 | 109 | 0 | 0 | | |
| Barium | 46.45 | 0.926 | 46.3 | 2.1 | 95.8 | 75 | 125 | 0 | 0 | | |
| Cadmium | 4.333 | 0.0926 | 4.63 | 0 | 93.6 | 86.4 | 113 | 0 | 0 | | |
| Chromium | 33.92 | 0.463 | 23.15 | 5.636 | 122 | 75 | 121 | 0 | 0 | | S,RP |
| Lead | 86.74 | 1.85 | 92.59 | 0 | 93.7 | 84.9 | 109 | 0 | 0 | | |
| Selenium | 85.05 | 1.85 | 92.59 | 1.027 | 90.7 | 77.7 | 116 | 0 | 0 | | |

Sample ID: **1111006-02AMS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **11/2/2011** Run ID: **TJA IRIS_111103E**
Client ID: **ZZZZZ** Batch ID: **29879** TestNo: **E6010** Analysis Date: **11/4/2011** SeqNo: **791095**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 43.02 | 1.85 | 46.3 | 0 | 92.9 | 75 | 123 | 0 | 0 | | |

Sample ID: **1110255-14AMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **11/1/2011** Run ID: **TJA IRIS_111102D**
Client ID: **TP-23-S-3.0** Batch ID: **29872** TestNo: **E6010** Analysis Date: **11/2/2011** SeqNo: **790259**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 131.6 | 3.18 | 159.2 | 0 | 82.7 | 86.1 | 109 | 127.4 | 3.30 | 20 | S |
| Barium | 166.2 | 1.59 | 79.62 | 92.17 | 93 | 75 | 125 | 171.2 | 2.93 | 20 | |
| Cadmium | 6.847 | 0.159 | 7.962 | 0.1115 | 84.6 | 86.4 | 113 | 6.624 | 3.31 | 20 | S |
| Chromium | 47.96 | 0.796 | 39.81 | 12.47 | 89.2 | 75 | 121 | 48.15 | 0.398 | 20 | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **1110255-14AMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **11/1/2011** Run ID: **TJA IRIS_111102D**
Client ID: **TP-23-S-3.0** Batch ID: **29872** TestNo: **E6010** Analysis Date: **11/2/2011** SeqNo: **790259**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 136.1 | 3.18 | 159.2 | 4.506 | 82.6 | 84.9 | 109 | 132 | 3.09 | 20 | S |
| Selenium | 131.9 | 3.18 | 159.2 | 0 | 82.9 | 77.7 | 116 | 129.3 | 2.05 | 20 | |
| Silver | 67.12 | 3.18 | 79.62 | 1.561 | 82.3 | 75 | 123 | 64.41 | 4.12 | 20 | |

Sample ID: **1111006-02AMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **11/2/2011** Run ID: **TJA IRIS_111103E**
Client ID: **ZZZZZ** Batch ID: **29879** TestNo: **E6010** Analysis Date: **11/3/2011** SeqNo: **790860**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 89.05 | 1.82 | 90.91 | 0.9818 | 96.9 | 86.1 | 109 | 86.83 | 2.53 | 20 | |
| Barium | 48.62 | 0.909 | 45.45 | 2.1 | 102 | 75 | 125 | 46.45 | 4.55 | 20 | |
| Cadmium | 4.509 | 0.0909 | 4.545 | 0 | 99.2 | 86.4 | 113 | 4.333 | 3.98 | 20 | |
| Chromium | 35.05 | 0.455 | 22.73 | 5.636 | 129 | 75 | 121 | 33.92 | 3.27 | 20 | S,RP |
| Lead | 90.57 | 1.82 | 90.91 | 0 | 99.6 | 84.9 | 109 | 86.74 | 4.32 | 20 | |
| Selenium | 89.24 | 1.82 | 90.91 | 1.027 | 97 | 77.7 | 116 | 85.05 | 4.81 | 20 | |

Sample ID: **1111006-02AMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **11/2/2011** Run ID: **TJA IRIS_111103E**
Client ID: **ZZZZZ** Batch ID: **29879** TestNo: **E6010** Analysis Date: **11/4/2011** SeqNo: **791096**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 44.72 | 1.82 | 45.45 | 0 | 98.4 | 75 | 123 | 43.02 | 3.87 | 20 | |

Sample ID: **1110255-14ADUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **11/1/2011** Run ID: **TJA IRIS_111102D**
Client ID: **TP-23-S-3.0** Batch ID: **29872** TestNo: **E6010** Analysis Date: **11/2/2011** SeqNo: **790257**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 3.06 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Barium | 79.37 | 1.53 | 0 | 0 | 0 | 0 | 0 | 92.17 | 14.9 | 20 | |
| Cadmium | ND | 0.153 | 0 | 0 | 0 | 0 | 0 | 0.1115 | 0 | 20 | |
| Chromium | 11.15 | 0.766 | 0 | 0 | 0 | 0 | 0 | 12.47 | 11.2 | 20 | |
| Lead | 4.379 | 3.06 | 0 | 0 | 0 | 0 | 0 | 4.506 | 2.87 | 20 | |
| Selenium | ND | 3.06 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **1110255-14ADUP** | SampType: **DUP** | TestCode: **6010_S** | Units: **mg/Kg-dry** | Prep Date: **11/1/2011** | Run ID: **TJA IRIS_111102D** |
|---|---|---|---|---|---|
| Client ID: **TP-23-S-3.0** | Batch ID: **29872** | TestNo: **E6010** | | Analysis Date: **11/2/2011** | SeqNo: **790257** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 1.7 | 3.06 | 0 | 0 | 0 | 0 | 0 | 1.561 | 0 | 20 | J |

| Sample ID: **1111006-02ADUP** | SampType: **DUP** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/2/2011** | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/3/2011** | SeqNo: **790857** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 1.82 | 0 | 0 | 0 | 0 | 0 | 0.9818 | 0 | 20 | |
| Barium | 2.609 | 0.909 | 0 | 0 | 0 | 0 | 0 | 2.1 | 21.6 | 20 | R |
| Cadmium | ND | 0.0909 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Chromium | 5.8 | 0.455 | 0 | 0 | 0 | 0 | 0 | 5.636 | 2.86 | 20 | |
| Lead | ND | 1.82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Selenium | ND | 1.82 | 0 | 0 | 0 | 0 | 0 | 1.027 | 0 | 20 | |

| Sample ID: **1111006-02ADUP** | SampType: **DUP** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **11/2/2011** | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/4/2011** | SeqNo: **791094** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | ND | 1.82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111102D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29872** | TestNo: **E6010** | | Analysis Date: **11/2/2011** | SeqNo: **790260** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.78 | 2.00 | 100 | 0 | 96.8 | 90 | 110 | 0 | 0 | | |
| Barium | 49.21 | 1.00 | 50 | 0 | 98.4 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.94 | 0.100 | 5 | 0 | 98.8 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.11 | 0.500 | 25 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Lead | 98.2 | 2.00 | 100 | 0 | 98.2 | 90 | 110 | 0 | 0 | | |
| Selenium | 96.37 | 2.00 | 100 | 0 | 96.4 | 90 | 110 | 0 | 0 | | |
| Silver | 47.24 | 2.00 | 50 | 0 | 94.5 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_111102D**
Client ID: **ZZZZZ** Batch ID: **29872** TestNo: **E6010** Analysis Date: **11/2/2011** SeqNo: **790270**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 98.11 | 2.00 | 100 | 0 | 98.1 | 90 | 110 | 0 | 0 | | |
| Barium | 49.11 | 1.00 | 50 | 0 | 98.2 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.89 | 0.100 | 5 | 0 | 97.8 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.44 | 0.500 | 25 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Lead | 99.52 | 2.00 | 100 | 0 | 99.5 | 90 | 110 | 0 | 0 | | |
| Selenium | 96.77 | 2.00 | 100 | 0 | 96.8 | 90 | 110 | 0 | 0 | | |
| Silver | 48.01 | 2.00 | 50 | 0 | 96 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_111102D**
Client ID: **ZZZZZ** Batch ID: **29872** TestNo: **E6010** Analysis Date: **11/2/2011** SeqNo: **790419**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 99.27 | 2.00 | 100 | 0 | 99.3 | 90 | 110 | 0 | 0 | | |
| Barium | 48.45 | 1.00 | 50 | 0 | 96.9 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.85 | 0.100 | 5 | 0 | 97 | 90 | 110 | 0 | 0 | | |
| Chromium | 24.83 | 0.500 | 25 | 0 | 99.3 | 90 | 110 | 0 | 0 | | |
| Lead | 97.87 | 2.00 | 100 | 0 | 97.9 | 90 | 110 | 0 | 0 | | |
| Selenium | 95.6 | 2.00 | 100 | 0 | 95.6 | 90 | 110 | 0 | 0 | | |
| Silver | 47.72 | 2.00 | 50 | 0 | 95.4 | 90 | 110 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: Run ID: **TJA IRIS_111103E**
Client ID: **ZZZZZ** Batch ID: **29879** TestNo: **E6010** Analysis Date: **11/3/2011** SeqNo: **790850**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.91 | 2.00 | 100 | 0 | 96.9 | 90 | 110 | 0 | 0 | | |
| Barium | 48.08 | 1.00 | 50 | 0 | 96.2 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.84 | 0.100 | 5 | 0 | 96.8 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.24 | 0.500 | 25 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Lead | 98.37 | 2.00 | 100 | 0 | 98.4 | 90 | 110 | 0 | 0 | | |
| Selenium | 93.94 | 2.00 | 100 | 0 | 93.9 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/3/2011** | SeqNo: **790865** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 97 | 2.00 | 100 | 0 | 97 | 90 | 110 | 0 | 0 | | |
| Barium | 49.63 | 1.00 | 50 | 0 | 99.3 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.95 | 0.100 | 5 | 0 | 99 | 90 | 110 | 0 | 0 | | |
| Chromium | 24.56 | 0.500 | 25 | 0 | 98.2 | 90 | 110 | 0 | 0 | | |
| Lead | 99.03 | 2.00 | 100 | 0 | 99 | 90 | 110 | 0 | 0 | | |
| Selenium | 97.01 | 2.00 | 100 | 0 | 97 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/3/2011** | SeqNo: **790877** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.35 | 2.00 | 100 | 0 | 96.4 | 90 | 110 | 0 | 0 | | |
| Barium | 50.96 | 1.00 | 50 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Cadmium | 5.03 | 0.100 | 5 | 0 | 101 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.43 | 0.500 | 25 | 0 | 102 | 90 | 110 | 0 | 0 | | |
| Lead | 99.99 | 2.00 | 100 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Selenium | 98.36 | 2.00 | 100 | 0 | 98.4 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/4/2011** | SeqNo: **791092** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 47.9 | 2.00 | 50 | 0 | 95.8 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/4/2011** | SeqNo: **791101** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 48 | 2.00 | 50 | 0 | 96 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/4/2011** | SeqNo: **791107** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 48.93 | 2.00 | 50 | 0 | 97.9 | 90 | 110 | 0 | 0 | | |

| Sample ID: **ICV** | SampType: **ICV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111102D** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29872** | TestNo: **E6010** | | Analysis Date: **11/2/2011** | SeqNo: **790253** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 98.65 | 2.00 | 100 | 0 | 98.6 | 90 | 110 | 0 | 0 | | |
| Barium | 49.15 | 1.00 | 50 | 0 | 98.3 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.89 | 0.100 | 5 | 0 | 97.8 | 90 | 110 | 0 | 0 | | |
| Chromium | 25.01 | 0.500 | 25 | 0 | 100 | 90 | 110 | 0 | 0 | | |
| Lead | 99.51 | 2.00 | 100 | 0 | 99.5 | 90 | 110 | 0 | 0 | | |
| Selenium | 96.88 | 2.00 | 100 | 0 | 96.9 | 90 | 110 | 0 | 0 | | |
| Silver | 48.23 | 2.00 | 50 | 0 | 96.5 | 90 | 110 | 0 | 0 | | |

| Sample ID: **ICV** | SampType: **ICV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/3/2011** | SeqNo: **790849** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.23 | 2.00 | 100 | 0 | 96.2 | 90 | 110 | 0 | 0 | | |
| Barium | 48.71 | 1.00 | 50 | 0 | 97.4 | 90 | 110 | 0 | 0 | | |
| Cadmium | 4.85 | 0.100 | 5 | 0 | 97 | 90 | 110 | 0 | 0 | | |
| Chromium | 24.91 | 0.500 | 25 | 0 | 99.6 | 90 | 110 | 0 | 0 | | |
| Lead | 96.64 | 2.00 | 100 | 0 | 96.6 | 90 | 110 | 0 | 0 | | |
| Selenium | 95.33 | 2.00 | 100 | 0 | 95.3 | 90 | 110 | 0 | 0 | | |

| Sample ID: **ICV** | SampType: **ICV** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: | Run ID: **TJA IRIS_111103E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29879** | TestNo: **E6010** | | Analysis Date: **11/4/2011** | SeqNo: **791089** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver | 49.84 | 2.00 | 50 | 0 | 99.7 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **MB-29867** | SampType: **MBLK** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **11/1/2011** | Run ID: **GCK_111102B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29867** | TestNo: **SW8082** | | Analysis Date: **11/2/2011** | SeqNo: **790924** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016 | ND | 0.333 | | | | | | | | | |
| Aroclor 1221 | ND | 0.333 | | | | | | | | | |
| Aroclor 1232 | ND | 0.333 | | | | | | | | | |
| Aroclor 1242 | ND | 0.333 | | | | | | | | | |
| Aroclor 1248 | ND | 0.333 | | | | | | | | | |
| Aroclor 1254 | ND | 0.333 | | | | | | | | | |
| Aroclor 1260 | ND | 0.333 | | | | | | | | | |
| Aroclor 1262 | ND | 0.333 | | | | | | | | | |
| Aroclor 1268 | ND | 0.333 | | | | | | | | | |
| Surr: Decachlorobiphenyl | 7704 | 0 | 6667 | 0 | 116 | 56.5 | 130 | 0 | 0 | | |

| Sample ID: **MB-29889** | SampType: **MBLK** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **11/3/2011** | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/4/2011** | SeqNo: **791236** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016 | ND | 0.333 | | | | | | | | | |
| Aroclor 1221 | ND | 0.333 | | | | | | | | | |
| Aroclor 1232 | ND | 0.333 | | | | | | | | | |
| Aroclor 1242 | ND | 0.333 | | | | | | | | | |
| Aroclor 1248 | ND | 0.333 | | | | | | | | | |
| Aroclor 1254 | ND | 0.333 | | | | | | | | | |
| Aroclor 1260 | ND | 0.333 | | | | | | | | | |
| Aroclor 1262 | ND | 0.333 | | | | | | | | | |
| Aroclor 1268 | ND | 0.333 | | | | | | | | | |
| Surr: Decachlorobiphenyl | 6581 | 0 | 6667 | 0 | 98.7 | 56.5 | 130 | 0 | 0 | | |

| Sample ID: **MB-29950** | SampType: **MBLK** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **11/10/2011** | Run ID: **GCK_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29950** | TestNo: **SW8082** | | Analysis Date: **11/10/2011** | SeqNo: **792615** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016 | ND | 0.333 | | | | | | | | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **MB-29950** | SampType: **MBLK** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **11/10/2011** | Run ID: **GCK_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29950** | TestNo: **SW8082** | | Analysis Date: **11/10/2011** | SeqNo: **792615** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1221 | ND | 0.333 | | | | | | | | | |
| Aroclor 1232 | ND | 0.333 | | | | | | | | | |
| Aroclor 1242 | ND | 0.333 | | | | | | | | | |
| Aroclor 1248 | ND | 0.333 | | | | | | | | | |
| Aroclor 1254 | ND | 0.333 | | | | | | | | | |
| Aroclor 1260 | ND | 0.333 | | | | | | | | | |
| Aroclor 1262 | ND | 0.333 | | | | | | | | | |
| Aroclor 1268 | ND | 0.333 | | | | | | | | | |
| Surr: Decachlorobiphenyl | 6154 | 0 | 6667 | 0 | 92.3 | 56.5 | 130 | 0 | 0 | | |

| Sample ID: **LCS-29867** | SampType: **LCS** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **11/1/2011** | Run ID: **GCK_111102B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29867** | TestNo: **SW8082** | | Analysis Date: **11/2/2011** | SeqNo: **790925** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 64 | 0.333 | 66.67 | 0 | 96 | 44.3 | 137 | 0 | 0 | | |

| Sample ID: **LCS-29889** | SampType: **LCS** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **11/3/2011** | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/4/2011** | SeqNo: **791238** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 60.67 | 0.333 | 66.67 | 0 | 91 | 44.3 | 137 | 0 | 0 | | |

| Sample ID: **LCS-29950** | SampType: **LCS** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: **11/10/2011** | Run ID: **GCK_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29950** | TestNo: **SW8082** | | Analysis Date: **11/10/2011** | SeqNo: **792747** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 53.33 | 0.333 | 66.67 | 0 | 80 | 44.3 | 137 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **1110255-09AMS** | SampType: **MS** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **11/1/2011** | Run ID: **GCK_111102B** |
|---|---|---|---|---|---|
| Client ID: **TP-21-S-4.0** | Batch ID: **29867** | TestNo: **SW8082** | | Analysis Date: **11/2/2011** | SeqNo: **790926** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 310.8 | 0.375 | 75.08 | 0 | 414 | 56.6 | 123 | 0 | 0 | | S,MI |

| Sample ID: **1110255-13AMS** | SampType: **MS** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **11/3/2011** | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **TP-22-S-10.0** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/4/2011** | SeqNo: **791239** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 86.29 | 0.454 | 90.83 | 0 | 95 | 56.6 | 123 | 0 | 0 | | |

| Sample ID: **1110255-07AMS** | SampType: **MS** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **11/10/2011** | Run ID: **GCK_111110A** |
|---|---|---|---|---|---|
| Client ID: **TP-20-S-10.0** | Batch ID: **29950** | TestNo: **SW8082** | | Analysis Date: **11/10/2011** | SeqNo: **792745** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 69.72 | 0.391 | 78.34 | 0 | 89 | 56.6 | 123 | 0 | 0 | | |

| Sample ID: **1110255-09AMSD** | SampType: **MSD** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **11/1/2011** | Run ID: **GCK_111102B** |
|---|---|---|---|---|---|
| Client ID: **TP-21-S-4.0** | Batch ID: **29867** | TestNo: **SW8082** | | Analysis Date: **11/2/2011** | SeqNo: **790927** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 326.6 | 0.375 | 75.08 | 0 | 435 | 56.6 | 123 | 310.8 | 4.95 | 20 | S,MI |

| Sample ID: **1110255-13AMSD** | SampType: **MSD** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **11/3/2011** | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **TP-22-S-10.0** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/4/2011** | SeqNo: **791242** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 79.02 | 0.454 | 90.83 | 0 | 87 | 56.6 | 123 | 86.29 | 8.79 | 20 | |

| Sample ID: **1110255-07AMSD** | SampType: **MSD** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **11/10/2011** | Run ID: **GCK_111110A** |
|---|---|---|---|---|---|
| Client ID: **TP-20-S-10.0** | Batch ID: **29950** | TestNo: **SW8082** | | Analysis Date: **11/10/2011** | SeqNo: **792746** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **1110255-07AMSD** | SampType: **MSD** | TestCode: **8082LL_S** | Units: **µg/Kg-dry** | Prep Date: **11/10/2011** | Run ID: **GCK_111110A** |
|---|---|---|---|---|---|
| Client ID: **TP-20-S-10.0** | Batch ID: **29950** | TestNo: **SW8082** | | Analysis Date: **11/10/2011** | SeqNo: **792746** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 75.99 | 0.391 | 78.34 | 0 | 97 | 56.6 | 123 | 69.72 | 8.60 | 20 | |

| Sample ID: **CCB-29867** | SampType: **CCB** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111102B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29867** | TestNo: **SW8082** | | Analysis Date: **11/2/2011** | SeqNo: **790934** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1221 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1232 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1242 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1248 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1254 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1260 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1262 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1268 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: Decachlorobiphenyl | 6719 | 0 | 6667 | 0 | 101 | 56.5 | 130 | 0 | 0 | | |

| Sample ID: **CCB** | SampType: **CCB** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/8/2011** | SeqNo: **791747** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1254 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Aroclor 1260 | ND | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111102B** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29867** | TestNo: **SW8082** | | Analysis Date: **11/2/2011** | SeqNo: **790923** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 66 | 0.333 | 66.67 | 0 | 99 | 85 | 115 | 0 | 0 | | |
| Aroclor 1254 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
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B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **8082LL_S** Units: **µg/Kg** Prep Date: Run ID: **GCK_111102B**
Client ID: **ZZZZZ** Batch ID: **29867** TestNo: **SW8082** Analysis Date: **11/2/2011** SeqNo: **790932**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 58.67 | 0.333 | 66.67 | 0 | 88 | 85 | 115 | 0 | 0 | | |
| Aroclor 1254 | 74 | 0.333 | 66.67 | 0 | 111 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 63.33 | 0.333 | 66.67 | 0 | 95 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **8082LL_S** Units: **µg/Kg** Prep Date: Run ID: **GCK_111102B**
Client ID: **ZZZZZ** Batch ID: **29867** TestNo: **SW8082** Analysis Date: **11/2/2011** SeqNo: **790933**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 62.67 | 0.333 | 66.67 | 0 | 94 | 85 | 115 | 0 | 0 | | |
| Aroclor 1254 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **8082LL_S** Units: **µg/Kg** Prep Date: Run ID: **GCK_111102B**
Client ID: **ZZZZZ** Batch ID: **29867** TestNo: **SW8082** Analysis Date: **11/2/2011** SeqNo: **790940**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 65.33 | 0.333 | 66.67 | 0 | 98 | 85 | 115 | 0 | 0 | | |
| Aroclor 1254 | 56.67 | 0.333 | 66.67 | 0 | 85 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 62 | 0.333 | 66.67 | 0 | 93 | 85 | 115 | 0 | 0 | | |

Sample ID: **CCV** SampType: **CCV** TestCode: **8082LL_S** Units: **µg/Kg** Prep Date: Run ID: **GCK_111104A**
Client ID: **ZZZZZ** Batch ID: **29889** TestNo: **SW8082** Analysis Date: **11/4/2011** SeqNo: **791234**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 70.67 | 0.333 | 66.67 | 0 | 106 | 85 | 115 | 0 | 0 | | |
| Aroclor 1254 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/4/2011** | SeqNo: **791259** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |
| Aroclor 1254 | 62 | 0.333 | 66.67 | 0 | 93 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 72 | 0.333 | 66.67 | 0 | 108 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/8/2011** | SeqNo: **791746** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1254 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111104A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29889** | TestNo: **SW8082** | | Analysis Date: **11/8/2011** | SeqNo: **791750** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1254 | 65.33 | 0.333 | 66.67 | 0 | 98 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 74.67 | 0.333 | 66.67 | 0 | 112 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29950** | TestNo: **SW8082** | | Analysis Date: **11/10/2011** | SeqNo: **792614** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 64 | 0.333 | 66.67 | 0 | 96 | 85 | 115 | 0 | 0 | | |
| Aroclor 1260 | 66.67 | 0.333 | 66.67 | 0 | 100 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **8082LL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **GCK_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29950** | TestNo: **SW8082** | | Analysis Date: **11/10/2011** | SeqNo: **792748** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1016/1260 | 71.33 | 0.333 | 66.67 | 0 | 107 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8082LL_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **8082LL_S** Units: **µg/Kg** Prep Date: Run ID: **GCK_111110A**
Client ID: **ZZZZZ** Batch ID: **29950** TestNo: **SW8082** Analysis Date: **11/10/2011** SeqNo: **792748**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor 1260 | 62.67 | 0.333 | 66.67 | 0 | 94 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **MBLK-29933** SampType: **MBLK** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/5/2011** SeqNo: **791896**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | | | | | | | | | |
| 1,1,1-Trichloroethane | ND | 10.0 | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | | | | | | | | | |
| 1,1,2-Trichloroethane | ND | 10.0 | | | | | | | | | |
| 1,1-Dichloroethane | ND | 10.0 | | | | | | | | | |
| 1,1-Dichloroethene | ND | 10.0 | | | | | | | | | |
| 1,1-Dichloropropene | ND | 10.0 | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,2,3-Trichloropropane | ND | 10.0 | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 10.0 | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | | | | | | | | | |
| 1,2-Dibromoethane | ND | 10.0 | | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,2-Dichloroethane | ND | 10.0 | | | | | | | | | |
| 1,2-Dichloropropane | ND | 10.0 | | | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 10.0 | | | | | | | | | |
| 1,3-Dichloropropane | ND | 10.0 | | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 10.0 | | | | | | | | | |
| 2,2-Dichloropropane | ND | 10.0 | | | | | | | | | |
| 2-Butanone | ND | 40.0 | | | | | | | | | |
| 2-Chlorotoluene | ND | 10.0 | | | | | | | | | |
| 2-Hexanone | ND | 20.0 | | | | | | | | | |
| 4-Chlorotoluene | ND | 10.0 | | | | | | | | | |
| 4-Isopropyltoluene | ND | 10.0 | | | | | | | | | |
| 4-Methyl-2-pentanone | ND | 40.0 | | | | | | | | | |
| Acetone | 9.71 | 100 | | | | | | | | | J |
| Benzene | ND | 10.0 | | | | | | | | | |
| Bromobenzene | ND | 10.0 | | | | | | | | | |
| Bromochloromethane | ND | 10.0 | | | | | | | | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **MBLK-29933** SampType: **MBLK** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/5/2011** SeqNo: **791896**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | ND | 10.0 | | | | | | | | | |
| Bromoform | ND | 10.0 | | | | | | | | | |
| Bromomethane | ND | 10.0 | | | | | | | | | |
| Carbon Disulfide | ND | 10.0 | | | | | | | | | |
| Carbon tetrachloride | ND | 10.0 | | | | | | | | | |
| Chlorobenzene | ND | 10.0 | | | | | | | | | |
| Chloroethane | ND | 10.0 | | | | | | | | | |
| Chloroform | ND | 10.0 | | | | | | | | | |
| Chloromethane | ND | 10.0 | | | | | | | | | |
| cis-1,2-Dichloroethene | ND | 10.0 | | | | | | | | | |
| cis-1,3-Dichloropropene | ND | 10.0 | | | | | | | | | |
| Dibromochloromethane | ND | 10.0 | | | | | | | | | |
| Dibromomethane | ND | 10.0 | | | | | | | | | |
| Dichlorodifluoromethane | ND | 10.0 | | | | | | | | | |
| Ethylbenzene | ND | 10.0 | | | | | | | | | |
| Hexachlorobutadiene | ND | 10.0 | | | | | | | | | |
| Isopropylbenzene | ND | 10.0 | | | | | | | | | |
| m,p-Xylene | ND | 20.0 | | | | | | | | | |
| Methyl tert-butyl ether | ND | 10.0 | | | | | | | | | |
| Methylene Chloride | 4.48 | 50.0 | | | | | | | | | J |
| n-Butylbenzene | ND | 10.0 | | | | | | | | | |
| n-Propylbenzene | ND | 10.0 | | | | | | | | | |
| Naphthalene | 2.23 | 10.0 | | | | | | | | | J |
| o-Xylene | ND | 10.0 | | | | | | | | | |
| sec-Butylbenzene | ND | 10.0 | | | | | | | | | |
| Styrene | ND | 10.0 | | | | | | | | | |
| tert-Butylbenzene | ND | 10.0 | | | | | | | | | |
| Tetrachloroethene | ND | 10.0 | | | | | | | | | |
| Toluene | 1.17 | 10.0 | | | | | | | | | J |
| trans-1,2-Dichloroethene | ND | 10.0 | | | | | | | | | |
| trans-1,3-Dichloropropene | ND | 10.0 | | | | | | | | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

| Sample ID: **MBLK-29933** | SampType: **MBLK** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/5/2011** | SeqNo: **791896** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Trichloroethene | ND | 10.0 | | | | | | | | | |
| Trichlorofluoromethane | ND | 10.0 | | | | | | | | | |
| Vinyl Chloride | ND | 10.0 | | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 92.99 | 0 | 100 | 0 | 93 | 71.5 | 112 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 82.13 | 0 | 100 | 0 | 82.1 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 99.8 | 0 | 100 | 0 | 99.8 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 114.8 | 0 | 100 | 0 | 115 | 74.9 | 120 | 0 | 0 | | |

| Sample ID: **LCS-29933** | SampType: **LCS** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/5/2011** | SeqNo: **791895** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 56.81 | 10.0 | 60 | 0 | 94.7 | 65.4 | 133 | 0 | 0 | | |
| Benzene | 63.26 | 10.0 | 60 | 0 | 105 | 78 | 123 | 0 | 0 | | |
| Chlorobenzene | 59.57 | 10.0 | 60 | 0 | 99.3 | 79.5 | 125 | 0 | 0 | | |
| Toluene | 58.35 | 10.0 | 60 | 0 | 97.2 | 77.5 | 132 | 0 | 0 | | |
| Trichloroethene | 59.27 | 10.0 | 60 | 0 | 98.8 | 72.4 | 124 | 0 | 0 | | |

| Sample ID: **LCSD-29933** | SampType: **LCSD** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/7/2011** | SeqNo: **791901** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 49.98 | 10.0 | 60 | 0 | 83.3 | 65.4 | 133 | 56.81 | 12.8 | 20 | |
| Benzene | 65.47 | 10.0 | 60 | 0 | 109 | 78 | 123 | 63.26 | 3.43 | 20 | |
| Chlorobenzene | 58.19 | 10.0 | 60 | 0 | 97 | 79.5 | 125 | 59.57 | 2.34 | 20 | |
| Toluene | 61.07 | 10.0 | 60 | 0 | 102 | 77.5 | 132 | 58.35 | 4.56 | 20 | |
| Trichloroethene | 59.81 | 10.0 | 60 | 0 | 99.7 | 72.4 | 124 | 59.27 | 0.907 | 20 | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/7/2011** SeqNo: **792100**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,1-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichlorobenzene | 1.43 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trichlorobenzene | 0.91 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromoethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichlorobenzene | 0.36 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,4-Dichlorobenzene | 0.53 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Butanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Hexanone | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Isopropyltoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Methyl-2-pentanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acetone | 13.26 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/7/2011** SeqNo: **792100**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromoform | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon Disulfide | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon tetrachloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroform | 0.29 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dichlorodifluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexachlorobutadiene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Isopropylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| m,p-Xylene | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methyl tert-butyl ether | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methylene Chloride | 22.86 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Butylbenzene | 0.35 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Propylbenzene | 0.15 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 2.78 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| o-Xylene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| sec-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Styrene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| tert-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Tetrachloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Toluene | 0.9 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

| Sample ID: **CCB-29933** | SampType: **CCB** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/7/2011** | SeqNo: **792100** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Trichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichlorofluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Vinyl Chloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 1,2-Dichloroethane-d4 | 99.04 | 0 | 100 | 0 | 99 | 71.5 | 112 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 84.01 | 0 | 100 | 0 | 84 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 99.21 | 0 | 100 | 0 | 99.2 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 122.1 | 0 | 100 | 0 | 122 | 74.9 | 120 | 0 | 0 | | S |

| Sample ID: **CCB-29933** | SampType: **CCB** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/8/2011** | SeqNo: **792107** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,1-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichlorobenzene | 0.76 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trichlorobenzene | 0.55 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromoethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/8/2011** SeqNo: **792107**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | 0.36 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Butanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Hexanone | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Isopropyltoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Methyl-2-pentanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acetone | 10.7 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromodichloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromoform | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon Disulfide | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon tetrachloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroform | 0.33 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dichlorodifluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ethylbenzene | 0.12 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexachlorobutadiene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Isopropylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| m,p-Xylene | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methyl tert-butyl ether | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

| Sample ID: **CCB-29933** | SampType: **CCB** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/8/2011** | SeqNo: **792107** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Methylene Chloride | 23.21 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Propylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 1.65 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| o-Xylene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| sec-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Styrene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| tert-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Tetrachloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Toluene | 1.18 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichlorofluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Vinyl Chloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 1,2-Dichloroethane-d4 | 89.75 | 0 | 100 | 0 | 89.8 | 71.5 | 112 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 86.42 | 0 | 100 | 0 | 86.4 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 98.36 | 0 | 100 | 0 | 98.4 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 127.5 | 0 | 100 | 0 | 128 | 74.9 | 120 | 0 | 0 | | S |

| Sample ID: **CCB-29933** | SampType: **CCB** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/9/2011** | SeqNo: **792280** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,1-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/9/2011** SeqNo: **792280**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,3-Trichlorobenzene | 1.8 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trichlorobenzene | 1.15 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromoethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichlorobenzene | 0.43 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,4-Dichlorobenzene | 0.71 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Butanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Hexanone | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Isopropyltoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Methyl-2-pentanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acetone | 5.9 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromodichloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromoform | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon Disulfide | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon tetrachloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/9/2011** SeqNo: **792280**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloroform | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dichlorodifluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexachlorobutadiene | 0.53 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Isopropylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| m,p-Xylene | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methyl tert-butyl ether | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methylene Chloride | ND | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Butylbenzene | 0.42 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Propylbenzene | 0.16 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 3.21 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| o-Xylene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| sec-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Styrene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| tert-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Tetrachloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Toluene | 0.87 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichlorofluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Vinyl Chloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 1,2-Dichloroethane-d4 | 86.9 | 0 | 100 | 0 | 86.9 | 71.5 | 112 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 96.67 | 0 | 100 | 0 | 96.7 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 91.21 | 0 | 100 | 0 | 91.2 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 114.8 | 0 | 100 | 0 | 115 | 74.9 | 120 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/10/2011** SeqNo: **792593**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,1-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2,2-Tetrachloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1,2-Trichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,1-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichlorobenzene | 1.4 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,3-Trichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trichlorobenzene | 0.85 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2,4-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromo-3-chloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dibromoethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3,5-Trimethylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,3-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1,4-Dichlorobenzene | 0.46 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2,2-Dichloropropane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Butanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Hexanone | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Chlorotoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Isopropyltoluene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 4-Methyl-2-pentanone | ND | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acetone | 8.05 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCB-29933** SampType: **CCB** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/10/2011** SeqNo: **792593**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromoform | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Bromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon Disulfide | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Carbon tetrachloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chlorobenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloroform | 0.23 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| cis-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromochloromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibromomethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dichlorodifluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Ethylbenzene | 0.14 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Hexachlorobutadiene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Isopropylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| m,p-Xylene | ND | 20.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methyl tert-butyl ether | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Methylene Chloride | ND | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Butylbenzene | 0.29 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| n-Propylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 2.51 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| o-Xylene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| sec-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Styrene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| tert-Butylbenzene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Tetrachloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Toluene | 0.88 | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,2-Dichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| trans-1,3-Dichloropropene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:**
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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

| Sample ID: **CCB-29933** | SampType: **CCB** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/10/2011** | SeqNo: **792593** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Trichloroethene | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trichlorofluoromethane | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Vinyl Chloride | ND | 10.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 1,2-Dichloroethane-d4 | 89.47 | 0 | 100 | 0 | 89.5 | 71.5 | 112 | 0 | 0 | | |
| Surr: 4-Bromofluorobenzene | 96.33 | 0 | 100 | 0 | 96.3 | 75.7 | 122 | 0 | 0 | | |
| Surr: Dibromofluoromethane | 100.6 | 0 | 100 | 0 | 101 | 64.3 | 124 | 0 | 0 | | |
| Surr: Toluene-d8 | 114.2 | 0 | 100 | 0 | 114 | 74.9 | 120 | 0 | 0 | | |

| Sample ID: **CCV-29933** | SampType: **CCV** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/5/2011** | SeqNo: **791894** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 58.58 | 10.0 | 60 | 0 | 97.6 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 58.13 | 10.0 | 60 | 0 | 96.9 | 80 | 120 | 0 | 0 | | |
| Chloroform | 61.35 | 10.0 | 60 | 0 | 102 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 63.22 | 10.0 | 60 | 0 | 105 | 80 | 120 | 0 | 0 | | |
| Toluene | 59.22 | 10.0 | 60 | 0 | 98.7 | 80 | 120 | 0 | 0 | | |
| Vinyl Chloride | 49.6 | 10.0 | 60 | 0 | 82.7 | 80 | 120 | 0 | 0 | | |

| Sample ID: **CCV-29933** | SampType: **CCV** | TestCode: **8260_5035** | Units: **ug/Kg** | Prep Date: | Run ID: **5973J_111105A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29933** | TestNo: **SW8260B** | | Analysis Date: **11/7/2011** | SeqNo: **791900** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 52.58 | 10.0 | 60 | 0 | 87.6 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 56.44 | 10.0 | 60 | 0 | 94.1 | 80 | 120 | 0 | 0 | | |
| Chloroform | 60.51 | 10.0 | 60 | 0 | 101 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 59.11 | 10.0 | 60 | 0 | 98.5 | 80 | 120 | 0 | 0 | | |
| Toluene | 60.18 | 10.0 | 60 | 0 | 100 | 80 | 120 | 0 | 0 | | |
| Vinyl Chloride | 71.55 | 10.0 | 60 | 0 | 119 | 80 | 120 | 0 | 0 | | |

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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCV-29933** SampType: **CCV** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/8/2011** SeqNo: **791903**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 53.29 | 10.0 | 60 | 0 | 88.8 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 57.99 | 10.0 | 60 | 0 | 96.7 | 80 | 120 | 0 | 0 | | |
| Chloroform | 61.53 | 10.0 | 60 | 0 | 103 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 56.87 | 10.0 | 60 | 0 | 94.8 | 80 | 120 | 0 | 0 | | |
| Toluene | 61.67 | 10.0 | 60 | 0 | 103 | 80 | 120 | 0 | 0 | | |
| Vinyl Chloride | 50.61 | 10.0 | 60 | 0 | 84.4 | 80 | 120 | 0 | 0 | | |

Sample ID: **CCV-29933** SampType: **CCV** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/7/2011** SeqNo: **792098**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 52.58 | 10.0 | 60 | 0 | 87.6 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 56.44 | 10.0 | 60 | 0 | 94.1 | 80 | 120 | 0 | 0 | | |
| Chloroform | 60.51 | 10.0 | 60 | 0 | 101 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 59.11 | 10.0 | 60 | 0 | 98.5 | 80 | 120 | 0 | 0 | | |
| Toluene | 60.18 | 10.0 | 60 | 0 | 100 | 80 | 120 | 0 | 0 | | |
| Vinyl Chloride | 71.55 | 10.0 | 60 | 0 | 119 | 80 | 120 | 0 | 0 | | |

Sample ID: **CCV-29933** SampType: **CCV** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/8/2011** SeqNo: **792106**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 53.29 | 10.0 | 60 | 0 | 88.8 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 57.99 | 10.0 | 60 | 0 | 96.7 | 80 | 120 | 0 | 0 | | |
| Chloroform | 61.53 | 10.0 | 60 | 0 | 103 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 56.87 | 10.0 | 60 | 0 | 94.8 | 80 | 120 | 0 | 0 | | |
| Toluene | 61.67 | 10.0 | 60 | 0 | 103 | 80 | 120 | 0 | 0 | | |
| Vinyl Chloride | 50.61 | 10.0 | 60 | 0 | 84.4 | 80 | 120 | 0 | 0 | | |

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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 8260_5035**

Sample ID: **CCV-29933** SampType: **CCV** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/9/2011** SeqNo: **792279**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 71.98 | 10.0 | 60 | 0 | 120 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 62.37 | 10.0 | 60 | 0 | 104 | 80 | 120 | 0 | 0 | | |
| Chloroform | 60.96 | 10.0 | 60 | 0 | 102 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 59.51 | 10.0 | 60 | 0 | 99.2 | 80 | 120 | 0 | 0 | | |
| Toluene | 59.27 | 10.0 | 60 | 0 | 98.8 | 80 | 120 | 0 | 0 | | |
| Vinyl Chloride | 67.21 | 10.0 | 60 | 0 | 112 | 80 | 120 | 0 | 0 | | |

Sample ID: **CCV-29933** SampType: **CCV** TestCode: **8260_5035** Units: **ug/Kg** Prep Date: Run ID: **5973J_111105A**
Client ID: **ZZZZZ** Batch ID: **29933** TestNo: **SW8260B** Analysis Date: **11/10/2011** SeqNo: **792592**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 58.8 | 10.0 | 60 | 0 | 98 | 80 | 120 | 0 | 0 | | |
| 1,2-Dichloropropane | 59.61 | 10.0 | 60 | 0 | 99.4 | 80 | 120 | 0 | 0 | | |
| Chloroform | 57.59 | 10.0 | 60 | 0 | 96 | 80 | 120 | 0 | 0 | | |
| Ethylbenzene | 58.05 | 10.0 | 60 | 0 | 96.8 | 80 | 120 | 0 | 0 | | |
| Toluene | 54.31 | 10.0 | 60 | 0 | 90.5 | 80 | 120 | 0 | 0 | | |
| Vinyl Chloride | 48.7 | 10.0 | 60 | 0 | 81.2 | 80 | 120 | 0 | 0 | | |

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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **MB-29888** | SampType: **MBLK** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **11/3/2011** | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790580** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.0167 | | | | | | | | | |

| Sample ID: **MB-29920** | SampType: **MBLK** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **11/8/2011** | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791670** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.0167 | | | | | | | | | |

| Sample ID: **LCS-29888** | SampType: **LCS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **11/3/2011** | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790579** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2514 | 0.0167 | 0.25 | 0 | 101 | 88.2 | 113 | 0 | 0 | | |

| Sample ID: **LCS-29920** | SampType: **LCS** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: **11/8/2011** | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791669** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2528 | 0.0167 | 0.25 | 0 | 101 | 88.2 | 113 | 0 | 0 | | |

| Sample ID: **1110255-31AMS** | SampType: **MS** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **11/3/2011** | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **TP-29-S-1.0** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790577** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 1.235 | 0.163 | 0.2442 | 2.117 | -361 | 78.1 | 125 | 0 | 0 | | S,MC |

| Sample ID: **1110243-13AMS** | SampType: **MS** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **11/8/2011** | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791661** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **1110243-13AMS** | SampType: **MS** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **11/8/2011** | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791661** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 1.345 | 0.167 | 0.2506 | 1.121 | 89.2 | 78.1 | 125 | 0 | 0 | | |

| Sample ID: **1110255-31AMSD** | SampType: **MSD** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **11/3/2011** | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **TP-29-S-1.0** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790578** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 1.384 | 0.173 | 0.2586 | 2.117 | -284 | 78.1 | 125 | 1.235 | 11.3 | 20 | S,MC |

| Sample ID: **1110243-13AMSD** | SampType: **MSD** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **11/8/2011** | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791662** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 1.291 | 0.163 | 0.2437 | 1.121 | 69.8 | 78.1 | 125 | 1.345 | 4.07 | 20 | S,MC |

| Sample ID: **1110255-31ADUP** | SampType: **DUP** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **11/3/2011** | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **TP-29-S-1.0** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790576** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 1.605 | 0.159 | 0 | 0 | 0 | 0 | 0 | 2.117 | 27.5 | 20 | R,MI |

| Sample ID: **1110243-13ADUP** | SampType: **DUP** | TestCode: **HG_CTS** | Units: **mg/Kg-dry** | Prep Date: **11/8/2011** | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791660** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 1.216 | 0.167 | 0 | 0 | 0 | 0 | 0 | 1.121 | 8.13 | 20 | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790581** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_CTS**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790581** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2379 | 0.0167 | 0.25 | 0 | 95.2 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_111103A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29888** | TestNo: **SW7471** | | Analysis Date: **11/3/2011** | SeqNo: **790582** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2294 | 0.0167 | 0.25 | 0 | 91.8 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791668** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2458 | 0.0167 | 0.25 | 0 | 98.3 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **HG_CTS** | Units: **mg/Kg** | Prep Date: | Run ID: **CVAA_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29920** | TestNo: **SW7471** | | Analysis Date: **11/8/2011** | SeqNo: **791671** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.2456 | 0.0167 | 0.25 | 0 | 98.2 | 90 | 110 | 0 | 0 | | |

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**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

| Sample ID: **MB-29866** | SampType: **MBLK** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **11/1/2011** | Run ID: **GC-M_111104E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29866** | TestNo: **NWTPH-Dx** | | Analysis Date: **11/4/2011** | SeqNo: **791201** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | | | | | | | | | |
| Lube Oil | ND | 50.0 | | | | | | | | | |
| Surr: o-Terphenyl | 27.36 | 0 | 33.33 | 0 | 82.1 | 50 | 150 | 0 | 0 | | |

| Sample ID: **MB-29949** | SampType: **MBLK** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **11/10/2011** | Run ID: **GC-M_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29949** | TestNo: **NWTPH-Dx** | | Analysis Date: **11/10/2011** | SeqNo: **792607** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 15.0 | | | | | | | | | |
| Lube Oil | ND | 50.0 | | | | | | | | | |
| Surr: o-Terphenyl | 33.65 | 0 | 33.33 | 0 | 101 | 50 | 150 | 0 | 0 | | |

| Sample ID: **LCS-29866** | SampType: **LCS** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **11/1/2011** | Run ID: **GC-M_111104E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29866** | TestNo: **NWTPH-Dx** | | Analysis Date: **11/4/2011** | SeqNo: **791202** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 157 | 15.0 | 166.6 | 0 | 94.2 | 76.3 | 125 | 0 | 0 | | |
| Lube Oil | 187.8 | 50.0 | 166.6 | 0 | 113 | 69.9 | 127 | 0 | 0 | | |

| Sample ID: **LCS-R70083** | SampType: **LCS** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **11/10/2011** | Run ID: **GC-M_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29949** | TestNo: **NWTPH-Dx** | | Analysis Date: **11/10/2011** | SeqNo: **792613** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 166.3 | 15.0 | 166.6 | 0 | 99.8 | 76.3 | 125 | 0 | 0 | | |
| Lube Oil | 188.8 | 50.0 | 166.6 | 0 | 113 | 69.9 | 127 | 0 | 0 | | |

| Sample ID: **1110255-25ADUP** | SampType: **DUP** | TestCode: **NWTPHDX_S** | Units: **mg/Kg-dry** | Prep Date: **11/1/2011** | Run ID: **GC-M_111104E** |
|---|---|---|---|---|---|
| Client ID: **TP-27-S-1.0** | Batch ID: **29866** | TestNo: **NWTPH-Dx** | | Analysis Date: **11/4/2011** | SeqNo: **791426** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

| Sample ID: **1110255-25ADUP** | SampType: **DUP** | TestCode: **NWTPHDX_S** | Units: **mg/Kg-dry** | Prep Date: **11/1/2011** | Run ID: **GC-M_111104E** |
|---|---|---|---|---|---|
| Client ID: **TP-27-S-1.0** | Batch ID: **29866** | TestNo: **NWTPH-Dx** | | Analysis Date: **11/4/2011** | SeqNo: **791426** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | ND | 18.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |
| Lube Oil | ND | 62.0 | 0 | 0 | 0 | 0 | 0 | 21.85 | 0 | 20 | |

| Sample ID: **1110255-20ADUP** | SampType: **DUP** | TestCode: **NWTPHDX_S** | Units: **mg/Kg-dry** | Prep Date: **11/10/2011** | Run ID: **GC-M_111110A** |
|---|---|---|---|---|---|
| Client ID: **TP-25-S-3.0** | Batch ID: **29949** | TestNo: **NWTPH-Dx** | | Analysis Date: **11/10/2011** | SeqNo: **792609** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 16.59 | 18.1 | 0 | 0 | 0 | 0 | 0 | 21.27 | 0 | 20 | J |
| Lube Oil | 66.79 | 60.2 | 0 | 0 | 0 | 0 | 0 | 100.5 | 40.3 | 20 | RF |

| Sample ID: **CCB-29866** | SampType: **CCB** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: **11/1/2011** | Run ID: **GC-M_111104E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29866** | TestNo: **NWTPH-Dx** | | Analysis Date: **11/4/2011** | SeqNo: **791425** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 2.943 | 15.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Lube Oil | 21.76 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: o-Terphenyl | 29.49 | 0 | 33.33 | 0 | 88.5 | 50 | 150 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_111104E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29866** | TestNo: **NWTPH-Dx** | | Analysis Date: **11/4/2011** | SeqNo: **791200** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 899.8 | 15.0 | 1026 | 0 | 87.7 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 509.1 | 50.0 | 528.4 | 0 | 96.4 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_111104E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29866** | TestNo: **NWTPH-Dx** | | Analysis Date: **11/4/2011** | SeqNo: **791207** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1313 | 15.0 | 1368 | 0 | 95.9 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: NWTPHDX_S**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_111104E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29866** | TestNo: **NWTPH-Dx** | | Analysis Date: **11/4/2011** | SeqNo: **791207** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lube Oil | 748.8 | 50.0 | 711.2 | 0 | 105 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_111104E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29866** | TestNo: **NWTPH-Dx** | | Analysis Date: **11/4/2011** | SeqNo: **791424** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 995.8 | 15.0 | 1026 | 0 | 97 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 567 | 50.0 | 528.4 | 0 | 107 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_111104E** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29866** | TestNo: **NWTPH-Dx** | | Analysis Date: **11/4/2011** | SeqNo: **791431** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1375 | 15.0 | 1368 | 0 | 100 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 740.2 | 50.0 | 704.5 | 0 | 105 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29949** | TestNo: **NWTPH-Dx** | | Analysis Date: **11/10/2011** | SeqNo: **792606** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1486 | 15.0 | 1368 | 0 | 109 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 713.7 | 50.0 | 704.5 | 0 | 101 | 85 | 115 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **NWTPHDX_S** | Units: **mg/Kg** | Prep Date: | Run ID: **GC-M_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29949** | TestNo: **NWTPH-Dx** | | Analysis Date: **11/10/2011** | SeqNo: **792771** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel | 1128 | 15.0 | 1026 | 0 | 110 | 85 | 115 | 0 | 0 | | |
| Lube Oil | 570.1 | 50.0 | 528.4 | 0 | 108 | 85 | 115 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **MB-29868** SampType: **MBLK** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **11/1/2011** Run ID: **5973G_111108A**
Client ID: **ZZZZZ** Batch ID: **29868** TestNo: **8270SIM** Analysis Date: **11/8/2011** SeqNo: **791742**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ND | 6.67 | | | | | | | | | |
| 2-Methylnaphthalene | 2 | 6.67 | | | | | | | | | J |
| Acenaphthene | ND | 6.67 | | | | | | | | | |
| Acenaphthylene | ND | 6.67 | | | | | | | | | |
| Anthracene | 0.6667 | 6.67 | | | | | | | | | J |
| Benz(a)anthracene | 3.333 | 6.67 | | | | | | | | | J |
| Benzo(a)pyrene | 6 | 6.67 | | | | | | | | | J |
| Benzo(b)fluoranthene | 6 | 6.67 | | | | | | | | | J |
| Benzo(g,h,i)perylene | 5.333 | 6.67 | | | | | | | | | J |
| Benzo(k)fluoranthene | 6 | 6.67 | | | | | | | | | J |
| Chrysene | 4 | 6.67 | | | | | | | | | J |
| Dibenz(a,h)anthracene | 4 | 6.67 | | | | | | | | | J |
| Fluoranthene | 0.6667 | 6.67 | | | | | | | | | J |
| Fluorene | ND | 6.67 | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | 4 | 6.67 | | | | | | | | | J |
| Naphthalene | 3.333 | 6.67 | | | | | | | | | J |
| Phenanthrene | 1.333 | 6.67 | | | | | | | | | J |
| Pyrene | ND | 6.67 | | | | | | | | | |
| Surr: 2-Fluorobiphenyl | 4735 | 0 | 6667 | 0 | 71 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 4479 | 0 | 6667 | 0 | 67.2 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 5881 | 0 | 6667 | 0 | 88.2 | 44.9 | 155 | 0 | 0 | | |

Sample ID: **MB-29891** SampType: **MBLK** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: **11/3/2011** Run ID: **5973G_111110A**
Client ID: **ZZZZZ** Batch ID: **29891** TestNo: **8270SIM** Analysis Date: **11/9/2011** SeqNo: **792262**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ND | 6.67 | | | | | | | | | |
| 2-Methylnaphthalene | ND | 6.67 | | | | | | | | | |
| Acenaphthene | ND | 6.67 | | | | | | | | | |
| Acenaphthylene | ND | 6.67 | | | | | | | | | |
| Anthracene | 0.6667 | 6.67 | | | | | | | | | J |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **MB-29891** | SampType: **MBLK** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **11/3/2011** | Run ID: **5973G_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29891** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792262** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benz(a)anthracene | 4.667 | 6.67 | | | | | | | | | J |
| Benzo(a)pyrene | 5.333 | 6.67 | | | | | | | | | J |
| Benzo(b)fluoranthene | 5.333 | 6.67 | | | | | | | | | J |
| Benzo(g,h,i)perylene | 6 | 6.67 | | | | | | | | | J |
| Benzo(k)fluoranthene | 2.667 | 6.67 | | | | | | | | | J |
| Chrysene | 6 | 6.67 | | | | | | | | | J |
| Dibenz(a,h)anthracene | 2.667 | 6.67 | | | | | | | | | J |
| Fluoranthene | 4 | 6.67 | | | | | | | | | J |
| Fluorene | ND | 6.67 | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | 4.667 | 6.67 | | | | | | | | | J |
| Naphthalene | 1.333 | 6.67 | | | | | | | | | J |
| Phenanthrene | 1.333 | 6.67 | | | | | | | | | J |
| Pyrene | 6 | 6.67 | | | | | | | | | J |
| Surr: 2-Fluorobiphenyl | 3828 | 0 | 6667 | 0 | 57.4 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 4010 | 0 | 6667 | 0 | 60.1 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 4624 | 0 | 6667 | 0 | 69.4 | 44.9 | 155 | 0 | 0 | | |

| Sample ID: **LCS-29868** | SampType: **LCS** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **11/1/2011** | Run ID: **5973G_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29868** | TestNo: **8270SIM** | | Analysis Date: **11/8/2011** | SeqNo: **791745** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 276 | 6.67 | 333.3 | 0 | 82.8 | 39.6 | 107 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 270 | 6.67 | 333.3 | 0 | 81 | 49.7 | 135 | 0 | 0 | | |
| Chrysene | 274 | 6.67 | 333.3 | 0 | 82.2 | 57.1 | 130 | 0 | 0 | | |
| Naphthalene | 257.3 | 6.67 | 333.3 | 0 | 77.2 | 29.1 | 109 | 0 | 0 | | |
| Phenanthrene | 290 | 6.67 | 333.3 | 0 | 87 | 48.4 | 115 | 0 | 0 | | |
| Pyrene | 301.3 | 6.67 | 333.3 | 0 | 90.4 | 47.2 | 134 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **LCS-29891** | SampType: **LCS** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: **11/3/2011** | Run ID: **5973G_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29891** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792263** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 185.3 | 6.67 | 333.3 | 0 | 55.6 | 39.6 | 107 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 186.7 | 6.67 | 333.3 | 0 | 56 | 49.7 | 135 | 0 | 0 | | |
| Chrysene | 212.7 | 6.67 | 333.3 | 0 | 63.8 | 57.1 | 130 | 0 | 0 | | |
| Naphthalene | 168 | 6.67 | 333.3 | 0 | 50.4 | 29.1 | 109 | 0 | 0 | | |
| Phenanthrene | 205.3 | 6.67 | 333.3 | 0 | 61.6 | 48.4 | 115 | 0 | 0 | | |
| Pyrene | 244 | 6.67 | 333.3 | 0 | 73.2 | 47.2 | 134 | 0 | 0 | | |

| Sample ID: **1110255-28AMS** | SampType: **MS** | TestCode: **PAHLL_S** | Units: **µg/Kg-dry** | Prep Date: **11/1/2011** | Run ID: **5973G_111108A** |
|---|---|---|---|---|---|
| Client ID: **TP-28-S-1.0** | Batch ID: **29868** | TestNo: **8270SIM** | | Analysis Date: **11/8/2011** | SeqNo: **791936** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 256.3 | 8.07 | 403.1 | 0 | 63.6 | 33.7 | 111 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 268.4 | 8.07 | 403.1 | 9.674 | 64.2 | 15 | 128 | 0 | 0 | | |
| Chrysene | 279.7 | 8.07 | 403.1 | 5.643 | 68 | 37.5 | 125 | 0 | 0 | | |
| Naphthalene | 211.2 | 8.07 | 403.1 | 2.418 | 51.8 | 27.7 | 108 | 0 | 0 | | |
| Phenanthrene | 281.3 | 8.07 | 403.1 | 0.8061 | 69.6 | 20.2 | 139 | 0 | 0 | | |
| Pyrene | 298.3 | 8.07 | 403.1 | 1.612 | 73.6 | 26.8 | 142 | 0 | 0 | | |

| Sample ID: **1110255-13AMS** | SampType: **MS** | TestCode: **PAHLL_S** | Units: **µg/Kg-dry** | Prep Date: **11/3/2011** | Run ID: **5973G_111110A** |
|---|---|---|---|---|---|
| Client ID: **TP-22-S-10.0** | Batch ID: **29891** | TestNo: **8270SIM** | | Analysis Date: **11/10/2011** | SeqNo: **792604** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 262.5 | 9.09 | 454.1 | 0 | 57.8 | 33.7 | 111 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 293.4 | 9.09 | 454.1 | 7.266 | 63 | 15 | 128 | 0 | 0 | | |
| Chrysene | 322.4 | 9.09 | 454.1 | 5.45 | 69.8 | 37.5 | 125 | 0 | 0 | | |
| Naphthalene | 233.4 | 9.09 | 454.1 | 3.633 | 50.6 | 27.7 | 108 | 0 | 0 | | |
| Phenanthrene | 328.8 | 9.09 | 454.1 | 3.633 | 71.6 | 20.2 | 139 | 0 | 0 | | |
| Pyrene | 438.7 | 9.09 | 454.1 | 9.083 | 94.6 | 26.8 | 142 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **1110255-28AMSD** SampType: **MSD** TestCode: **PAHLL_S** Units: **µg/Kg-dry** Prep Date: **11/1/2011** Run ID: **5973G_111108A**
Client ID: **TP-28-S-1.0** Batch ID: **29868** TestNo: **8270SIM** Analysis Date: **11/8/2011** SeqNo: **791937**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 221.7 | 8.07 | 403.1 | 0 | 55 | 33.7 | 111 | 256.3 | 14.5 | 20 | |
| Benzo(g,h,i)perylene | 258.8 | 8.07 | 403.1 | 9.674 | 61.8 | 15 | 128 | 268.4 | 3.67 | 20 | |
| Chrysene | 261.2 | 8.07 | 403.1 | 5.643 | 63.4 | 37.5 | 125 | 279.7 | 6.86 | 20 | |
| Naphthalene | 190.2 | 8.07 | 403.1 | 2.418 | 46.6 | 27.7 | 108 | 211.2 | 10.4 | 20 | |
| Phenanthrene | 257.2 | 8.07 | 403.1 | 0.8061 | 63.6 | 20.2 | 139 | 281.3 | 8.98 | 20 | |
| Pyrene | 289.4 | 8.07 | 403.1 | 1.612 | 71.4 | 26.8 | 142 | 298.3 | 3.02 | 20 | |

Sample ID: **1110255-13AMSD** SampType: **MSD** TestCode: **PAHLL_S** Units: **µg/Kg-dry** Prep Date: **11/3/2011** Run ID: **5973G_111110A**
Client ID: **TP-22-S-10.0** Batch ID: **29891** TestNo: **8270SIM** Analysis Date: **11/10/2011** SeqNo: **792605**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 234.3 | 9.09 | 454.1 | 0 | 51.6 | 33.7 | 111 | 262.5 | 11.3 | 20 | |
| Benzo(g,h,i)perylene | 274.3 | 9.09 | 454.1 | 7.266 | 58.8 | 15 | 128 | 293.4 | 6.72 | 20 | |
| Chrysene | 304.3 | 9.09 | 454.1 | 5.45 | 65.8 | 37.5 | 125 | 322.4 | 5.80 | 20 | |
| Naphthalene | 203.5 | 9.09 | 454.1 | 3.633 | 44 | 27.7 | 108 | 233.4 | 13.7 | 20 | |
| Phenanthrene | 300.6 | 9.09 | 454.1 | 3.633 | 65.4 | 20.2 | 139 | 328.8 | 8.95 | 20 | |
| Pyrene | 412.4 | 9.09 | 454.1 | 9.083 | 88.8 | 26.8 | 142 | 438.7 | 6.19 | 20 | |

Sample ID: **CCB-29868** SampType: **CCB** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5973G_111108A**
Client ID: **ZZZZZ** Batch ID: **29868** TestNo: **8270SIM** Analysis Date: **11/9/2011** SeqNo: **792076**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Methylnaphthalene | 4 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthylene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benz(a)anthracene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(a)pyrene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(b)fluoranthene | 4 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 3.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **CCB-29868** | SampType: **CCB** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973G_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29868** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792076** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzo(k)fluoranthene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chrysene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibenz(a,h)anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluoranthene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluorene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 2.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Phenanthrene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Pyrene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 2-Fluorobiphenyl | 4831 | 0 | 6667 | 0 | 72.5 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 4983 | 0 | 6667 | 0 | 74.7 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 5706 | 0 | 6667 | 0 | 85.6 | 44.9 | 155 | 0 | 0 | | |

| Sample ID: **CCB-29891** | SampType: **CCB** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973G_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29891** | TestNo: **8270SIM** | | Analysis Date: **11/10/2011** | SeqNo: **792426** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2-Methylnaphthalene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Acenaphthylene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benz(a)anthracene | 4.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(a)pyrene | 6 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(b)fluoranthene | 4.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 6 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Benzo(k)fluoranthene | 2 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Chrysene | 5.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Dibenz(a,h)anthracene | ND | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluoranthene | 3.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Fluorene | 0.6667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **CCB-29891** | SampType: **CCB** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973G_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29891** | TestNo: **8270SIM** | | Analysis Date: **11/10/2011** | SeqNo: **792426** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Indeno(1,2,3-cd)pyrene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Naphthalene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Phenanthrene | 1.333 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Pyrene | 4.667 | 6.67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Surr: 2-Fluorobiphenyl | 3834 | 0 | 6667 | 0 | 57.5 | 42.6 | 128 | 0 | 0 | | |
| Surr: Nitrobenzene-d5 | 3874 | 0 | 6667 | 0 | 58.1 | 21.7 | 155 | 0 | 0 | | |
| Surr: p-Terphenyl-d14 | 4933 | 0 | 6667 | 0 | 74 | 44.9 | 155 | 0 | 0 | | |

| Sample ID: **CCV-29868** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973G_111108A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29868** | TestNo: **8270SIM** | | Analysis Date: **11/8/2011** | SeqNo: **791741** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 68 | 6.67 | 66.67 | 0 | 102 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 70.67 | 6.67 | 66.67 | 0 | 106 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 62.67 | 6.67 | 66.67 | 0 | 94 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 74.67 | 6.67 | 66.67 | 0 | 112 | 70 | 130 | 0 | 0 | | |
| Anthracene | 70.67 | 6.67 | 66.67 | 0 | 106 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 65.33 | 6.67 | 66.67 | 0 | 98 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 66 | 6.67 | 66.67 | 0 | 99 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 68.67 | 6.67 | 66.67 | 0 | 103 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 56 | 6.67 | 66.67 | 0 | 84 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 72 | 6.67 | 66.67 | 0 | 108 | 70 | 130 | 0 | 0 | | |
| Chrysene | 70 | 6.67 | 66.67 | 0 | 105 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 58 | 6.67 | 66.67 | 0 | 87 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 71.33 | 6.67 | 66.67 | 0 | 107 | 70 | 130 | 0 | 0 | | |
| Fluorene | 72.67 | 6.67 | 66.67 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 61.33 | 6.67 | 66.67 | 0 | 92 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 66.67 | 6.67 | 66.67 | 0 | 100 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 70 | 6.67 | 66.67 | 0 | 105 | 70 | 130 | 0 | 0 | | |
| Pyrene | 72 | 6.67 | 66.67 | 0 | 108 | 70 | 130 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **CCV-29868** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5973G_111108A**
Client ID: **ZZZZZ** Batch ID: **29868** TestNo: **8270SIM** Analysis Date: **11/9/2011** SeqNo: **792075**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 66 | 6.67 | 66.67 | 0 | 99 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 74 | 6.67 | 66.67 | 0 | 111 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 63.33 | 6.67 | 66.67 | 0 | 95 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 76.67 | 6.67 | 66.67 | 0 | 115 | 70 | 130 | 0 | 0 | | |
| Anthracene | 72 | 6.67 | 66.67 | 0 | 108 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 72.67 | 6.67 | 66.67 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 74.67 | 6.67 | 66.67 | 0 | 112 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 76.67 | 6.67 | 66.67 | 0 | 115 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 57.33 | 6.67 | 66.67 | 0 | 86 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 70 | 6.67 | 66.67 | 0 | 105 | 70 | 130 | 0 | 0 | | |
| Chrysene | 62 | 6.67 | 66.67 | 0 | 93 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 65.33 | 6.67 | 66.67 | 0 | 98 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 76.67 | 6.67 | 66.67 | 0 | 115 | 70 | 130 | 0 | 0 | | |
| Fluorene | 72.67 | 6.67 | 66.67 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 61.33 | 6.67 | 66.67 | 0 | 92 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 63.33 | 6.67 | 66.67 | 0 | 95 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 69.33 | 6.67 | 66.67 | 0 | 104 | 70 | 130 | 0 | 0 | | |
| Pyrene | 76.67 | 6.67 | 66.67 | 0 | 115 | 70 | 130 | 0 | 0 | | |

Sample ID: **CCV-29891** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5973G_111110A**
Client ID: **ZZZZZ** Batch ID: **29891** TestNo: **8270SIM** Analysis Date: **11/9/2011** SeqNo: **792261**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 68.67 | 6.67 | 66.67 | 0 | 103 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 77.33 | 6.67 | 66.67 | 0 | 116 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 64.67 | 6.67 | 66.67 | 0 | 97 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 78 | 6.67 | 66.67 | 0 | 117 | 70 | 130 | 0 | 0 | | |
| Anthracene | 73.33 | 6.67 | 66.67 | 0 | 110 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 74 | 6.67 | 66.67 | 0 | 111 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 72 | 6.67 | 66.67 | 0 | 108 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 76 | 6.67 | 66.67 | 0 | 114 | 70 | 130 | 0 | 0 | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

| Sample ID: **CCV-29891** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973G_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29891** | TestNo: **8270SIM** | | Analysis Date: **11/9/2011** | SeqNo: **792261** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzo(g,h,i)perylene | 57.33 | 6.67 | 66.67 | 0 | 86 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 62.67 | 6.67 | 66.67 | 0 | 94 | 70 | 130 | 0 | 0 | | |
| Chrysene | 64 | 6.67 | 66.67 | 0 | 96 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 62.67 | 6.67 | 66.67 | 0 | 94 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 79.33 | 6.67 | 66.67 | 0 | 119 | 70 | 130 | 0 | 0 | | |
| Fluorene | 75.33 | 6.67 | 66.67 | 0 | 113 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 61.33 | 6.67 | 66.67 | 0 | 92 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 69.33 | 6.67 | 66.67 | 0 | 104 | 70 | 130 | 0 | 0 | | |
| Phenanthrene | 68.67 | 6.67 | 66.67 | 0 | 103 | 70 | 130 | 0 | 0 | | |
| Pyrene | 79.33 | 6.67 | 66.67 | 0 | 119 | 70 | 130 | 0 | 0 | | |

| Sample ID: **CCV-29891** | SampType: **CCV** | TestCode: **PAHLL_S** | Units: **µg/Kg** | Prep Date: | Run ID: **5973G_111110A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29891** | TestNo: **8270SIM** | | Analysis Date: **11/10/2011** | SeqNo: **792425** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 60.67 | 6.67 | 66.67 | 0 | 91 | 70 | 130 | 0 | 0 | | |
| 2-Methylnaphthalene | 74.67 | 6.67 | 66.67 | 0 | 112 | 70 | 130 | 0 | 0 | | |
| Acenaphthene | 65.33 | 6.67 | 66.67 | 0 | 98 | 70 | 130 | 0 | 0 | | |
| Acenaphthylene | 82 | 6.67 | 66.67 | 0 | 123 | 70 | 130 | 0 | 0 | | |
| Anthracene | 72.67 | 6.67 | 66.67 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Benz(a)anthracene | 72.67 | 6.67 | 66.67 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Benzo(a)pyrene | 73.33 | 6.67 | 66.67 | 0 | 110 | 70 | 130 | 0 | 0 | | |
| Benzo(b)fluoranthene | 79.33 | 6.67 | 66.67 | 0 | 119 | 70 | 130 | 0 | 0 | | |
| Benzo(g,h,i)perylene | 61.33 | 6.67 | 66.67 | 0 | 92 | 70 | 130 | 0 | 0 | | |
| Benzo(k)fluoranthene | 64.67 | 6.67 | 66.67 | 0 | 97 | 70 | 130 | 0 | 0 | | |
| Chrysene | 64 | 6.67 | 66.67 | 0 | 96 | 70 | 130 | 0 | 0 | | |
| Dibenz(a,h)anthracene | 69.33 | 6.67 | 66.67 | 0 | 104 | 70 | 130 | 0 | 0 | | |
| Fluoranthene | 73.33 | 6.67 | 66.67 | 0 | 110 | 70 | 130 | 0 | 0 | | |
| Fluorene | 72.67 | 6.67 | 66.67 | 0 | 109 | 70 | 130 | 0 | 0 | | |
| Indeno(1,2,3-cd)pyrene | 66.67 | 6.67 | 66.67 | 0 | 100 | 70 | 130 | 0 | 0 | | |
| Naphthalene | 69.33 | 6.67 | 66.67 | 0 | 104 | 70 | 130 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1110255
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: PAHLL_S**

Sample ID: **CCV-29891** SampType: **CCV** TestCode: **PAHLL_S** Units: **µg/Kg** Prep Date: Run ID: **5973G_111110A**
Client ID: **ZZZZZ** Batch ID: **29891** TestNo: **8270SIM** Analysis Date: **11/10/2011** SeqNo: **792425**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Phenanthrene | 70 | 6.67 | 66.67 | 0 | 105 | 70 | 130 | 0 | 0 | | |
| Pyrene | 78.67 | 6.67 | 66.67 | 0 | 118 | 70 | 130 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

# KEY TO FLAGS

Rev. May 12, 2010

| | |
|---|---|
| A | This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards |
| A1 | This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards. |
| A2 | This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard. |
| A3 | The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type. |
| A4 | The product appears to be aged or degraded diesel. |
| B | The blank exhibited a positive result great than the reporting limit for this compound. |
| CN | See Case Narrative. |
| D | Result is based from a dilution. |
| E | Result exceeds the calibration range for this compound. The result should be considered as estimate. |
| F | The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library. |
| G | Result may be biased high due to biogenic interferences. Clean up is recommended. |
| H | Sample was analyzed outside recommended holding time. |
| HT | At clients request, samples was analyzed outside of recommended holding time. |
| J | The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration. |
| K | Diesel result is biased high due to amount of Oil contained in the sample. |
| L | Diesel result is biased high due to amount of Gasoline contained in the sample. |
| M | Oil result is biased high due to amount of Diesel contained in the sample. |
| MC | Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant. |
| MI | Result is outside control limits due to matrix interference. |
| MSA | Value determined by Method of Standard Addition. |
| O | Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements. |
| Q | Detection levels elevated due to sample matrix. |
| R | RPD control limits were exceeded. |
| RF | Duplicate failed due to result being at or near the method-reporting limit. |
| RP | Matrix spike values exceed established QC limits; post digestion spike is in control. |
| S | Recovery is outside control limits. |
| SC | Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements. |
| * | The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit. |

# CHAIN OF CUSTODY RECORD



**Specialty Analytical**
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336

*All samples not analyzed please hold for potential follow up

Contact Person/Project Manager: Alan Hughes
Company: MFA
Address:
Phone: Fax:
Project No. 0229.04.03 Project Name: Port of C/W
Project Site Location OR: WA: X Other:
Invoice To: P.O. No.:

Collected By:
Signature:
Printed:

Signature:
Printed:

Turn Around Time
☒ Normal 5-7 Business Days
☐ Rush _____
Specify
**Rush Analyses Must Be Scheduled With The Lab In Advance**

**For Laboratory Use**
Lab Job No. 1110255
Shipped Via: Specialty
Air Bill No.:
Temperature On Receipt: 5 °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: NWTPH-Dx | PAH 8270 SIM | PCB | Total Metals RCRA | VOC 8260B | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/28 | 8:15 | TP-19-S-1.5 | S | 1 | HOLD | X | X | X | | | |
| | 8:25 | TP-19-S-3.5 | | 1 | | X | X | X | | | |
| | 8:50 | TP-19-S-6.0 | | 1 | HOLD | X | X | X | | | -03 |
| | 9:00 | TP-19-S-10.0 | | 1 | HOLD | | | | | | |
| | 9:20 | TP-20-S-1.5 | | 1 | HOLD | | | | | | |
| | 9:30 | TP-20-S-4.0 | | 1 | | X | X | X | | | |
| | 9:45 | TP-20-S-10.0 | | 1 | HOLD | X | | | | | |
| | 10:00 | TP-21-S-1.5 | | 1 | HOLD | | | | | | |
| | 10:10 | TP-21-S-4.0 | | 1 | | X | X | X | | | |
| | 10:21 | TP-21-S-10.0 | | 1 | HOLD | | | | | | |
| | 10:40 | TP-22-S-1.5 | | 1 | HOLD | X | X | X | | | |
| | 10:45 | TP-22-S-3.0 | | 1 | | X | X | X | | | |

| Relinquished By: | Date | Time | Received By: | Relinquished By: | Date | Time |
|---|---|---|---|---|---|---|
| Company: MFA | 10/28 | 19:00 | Company: Specialty | Company: | | |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Received For Lab By: Nikki Bippes Date: 10/31/11 Time: 1345

Copies: White-Original Yellow-Project File Pink-Customer Copy

# CHAIN OF CUSTODY RECORD



**Specialty Analytical**
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336

All samples not analyzed please hold for potential follow up

Contact Person/Project Manager: Alan Hughes
Company: MFA
Address:
Phone: Fax:
Project No. 0229.04.03 Project Name: Port of C/W
Project Site Location OR: WA: X Other:
Invoice To: P.O. No.:

Collected By:
Signature:
Printed:

Signature:
Printed:

Turn Around Time
☒ ~~Normal~~ 5-7 Business Days
☐ Rush _____
Specify
**Rush Analyses Must Be Scheduled With The Lab In Advance**

**For Laboratory Use**
Lab Job No. 1110255
Shipped Via: Specialty
Air Bill No.:
Temperature On Receipt 5 °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: NWTPH-Dx | PAH 8270 SIM | PCB | Total Metals (RCRA 8) | VOC 8260B | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/26 | 11:20 | TP-22-S-10.0 | S | 1 | | ⊗ | ⊗ | ⊗ | (MG) | HOLD | -13 |
| | 11:55 | TP-23-S-3.0 | | 5 | X | X | | X | X | | |
| | 12:10 | TP-23-S-5.0 | | 5 | HOLD | | | | | | |
| | 12:30 | TP-24-S-1.0 | | 5 | X | X | | X | X | | |
| | 12:45 | TP-24-S-3.0 | | 5 | HOLD | | | | | | |
| | 13:00 | TP-24-S-5.0 | | 5 | HOLD | | | | | | |
| | 13:20 | TP-25-S-1.0 | | 5 | X | X | | X | X | | |
| | 13:30 | TP-25-S-3.0 | | 5 | ⊗ | HOLD | | | | | |
| | 13:40 | TP-25-S-5.0 | | 5 | HOLD | | | | | | |
| | 14:05 | TP-26-S-1.0 | | 5 | X | X | | X | X | | |
| | 14:10 | TP-26-S-3.0 | | 5 | HOLD | | | | | | |
| | 14:15 | TP-26-S-5.0 | | 5 | ~~X~~ | ~~X~~ | | ~~X~~ | ~~X~~ | HOLD (MG) | |

| Relinquished By: | Date | Time | Received By: | Relinquished By: | Date | Time |
|---|---|---|---|---|---|---|
| Company: MFA | 10/28 | 12:00 | Company: Nikki Bippes Specialty | Company: | | |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Received For Lab By: Nikki Bippes — Date: 10/31/11 — Time: 1345

Copies: White-Original Yellow-Project File Pink-Customer Copy

# CHAIN OF CUSTODY RECORD



**Specialty Analytical**
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336

* All samples not analyzed please hold for potential follow-up

Contact Person/Project Manager: Alan Hughes
Company: MFA
Address:
Phone: Fax:
Project No. 0229.04.03 Project Name: Port of CW
Project Site Location OR: WA: X Other:
Invoice To: P.O. No.:

Collected By:
Signature:
Printed:

Signature:
Printed:

Turn Around Time
☒ Normal 5-7 Business Days
☐ Rush _____
Specify
**Rush Analyses Must Be Scheduled With The Lab In Advance**

For Laboratory Use
Lab Job No. 1110255
Shipped Via: Specialty
Air Bill No.:
Temperature On Receipt 5 °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

| Date | Time | Sample I.D. | Matrix | No. of Containers | Analyses: NWTPH-Dx | PAH 8270 SIM | PCB | Total Metal RCRA8 | VOC 8260B | Mercury | Comments | Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/28 | 14:30 | TP-27-5-1.0 | S | 5 | X | X | | X | X | | | |
| " | 14:35 | TP-27-5-3.0 | " | 5 | HOLD | | | | | | | |
| " | 14:45 | TP-27-5-5.0 | " | 5 | HOLD | | | | | | | |
| " | 15:00 | TP-28-5-1.0 | " | 5 | X | X | | X | X | | | |
| " | 15:10 | TP-28-5-3.0 | " | 5 | HOLD | | | | | | | |
| " | 15:15 | TP-28-5-5.0 | " | 5 | HOLD | | | | | | | |
| " | 15:30 | TP-29-5-1.0 | " | 5 | X | X | | X | X | | | |
| " | 15:35 | TP-29-5-3.0 | " | 5 | HOLD | | | | | ⊗ | | |
| " | 15:45 | TP-29-5-5.0 | " | 5 | HOLD | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

| Relinquished By: | Company: | Date | Time | Received By: | Company: | Relinquished By: | Company: | Date | Time |
|---|---|---|---|---|---|---|---|---|---|
| | MFA | 10/28 | 19:00 | Nikki Bippes | Specialty | | | | |

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Received For Lab By: Nikki Bippes — Date: 10/31/11 — Time: 1345

Copies: White-Original Yellow-Project File Pink-Customer Copy

# Specialty Analytical

11711 SE Capps Road
Clackamas, OR 97015
(503) 607-1331
Fax (503) 607-1336


November 11, 2011

Alan Hughes
Maul, Foster & Alongi
400 East Mill Plain Blvd
Suite 400
Vancouver, WA 98660

TEL: (360) 694-2691
FAX: (360) 906-1958

RE: Port of C/W / 0229.04.03

Order No.: 1111072

Dear Alan Hughes:

Specialty Analytical received 1 sample on 10/28/2011 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Cindy Hillyard
Project Manager

Technical Review

# Specialty Analytical

**Date:** *11-Nov-11*

| | | | |
|---|---|---|---|
| **CLIENT:** | Maul, Foster & Alongi | **Client Sample ID:** | Comp (TP-16 & TP-17) |
| **Lab Order:** | 1111072 | **Collection Date:** | 10/27/2011 |
| **Project:** | Port of C/W / 0229.04.03 | | |
| **Lab ID:** | 1111072-01 | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **TCLP METALS** | | **E1311/6010** | | | | Analyst: **cmt** |
| Lead, TCLP | 0.576 | 0.100 | | mg/L | 1 | 11/11/2011 1:02:44 PM |
| **TCLP MERCURY** | | **1311/7000** | | | | Analyst: **zau** |
| Mercury, TCLP | ND | 0.000100 | | mg/L | 1 | 11/11/2011 |

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1111072
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_TCLP**

| Sample ID: **MBLK-29960** | SampType: **MBLK** | TestCode: **6010_TCLP** | Units: **mg/L** | Prep Date: **11/11/2011** | Run ID: **TJA IRIS_111111A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29960** | TestNo: **E1311/6010** | | Analysis Date: **11/11/2011** | SeqNo: **792977** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead, TCLP | ND | 0.0200 | | | | | | | | | |

| Sample ID: **LCS-29960** | SampType: **LCS** | TestCode: **6010_TCLP** | Units: **mg/L** | Prep Date: **11/11/2011** | Run ID: **TJA IRIS_111111A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29960** | TestNo: **E1311/6010** | | Analysis Date: **11/11/2011** | SeqNo: **792978** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead, TCLP | 0.9832 | 0.0200 | 1 | 0 | 98.3 | 93.1 | 112 | 0 | 0 | | |

| Sample ID: **1111072-01AMS** | SampType: **MS** | TestCode: **6010_TCLP** | Units: **mg/L** | Prep Date: **11/11/2011** | Run ID: **TJA IRIS_111111A** |
|---|---|---|---|---|---|
| Client ID: **Comp (TP-16 & TP-1** | Batch ID: **29960** | TestNo: **E1311/6010** | | Analysis Date: **11/11/2011** | SeqNo: **792981** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead, TCLP | 5.195 | 0.100 | 5 | 0.5765 | 92.4 | 91.9 | 112 | 0 | 0 | | |

| Sample ID: **1111072-01AMSD** | SampType: **MSD** | TestCode: **6010_TCLP** | Units: **mg/L** | Prep Date: **11/11/2011** | Run ID: **TJA IRIS_111111A** |
|---|---|---|---|---|---|
| Client ID: **Comp (TP-16 & TP-1** | Batch ID: **29960** | TestNo: **E1311/6010** | | Analysis Date: **11/11/2011** | SeqNo: **792982** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead, TCLP | 5.235 | 0.100 | 5 | 0.5765 | 93.2 | 91.9 | 112 | 5.195 | 0.767 | 20 | |

| Sample ID: **1111072-01ADUP** | SampType: **DUP** | TestCode: **6010_TCLP** | Units: **mg/L** | Prep Date: **11/11/2011** | Run ID: **TJA IRIS_111111A** |
|---|---|---|---|---|---|
| Client ID: **Comp (TP-16 & TP-1** | Batch ID: **29960** | TestNo: **E1311/6010** | | Analysis Date: **11/11/2011** | SeqNo: **792980** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead, TCLP | 0.6465 | 0.100 | 0 | 0 | 0 | 0 | 0 | 0.5765 | 11.4 | 20 | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1111072
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_TCLP**

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_TCLP** | Units: **mg/L** | Prep Date: | Run ID: **TJA IRIS_111111A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29960** | TestNo: **E1311/6010** | | Analysis Date: **11/11/2011** | SeqNo: **792985** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead, TCLP | 0.9838 | 0.0200 | 1 | 0 | 98.4 | 90 | 110 | 0 | 0 | | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **6010_TCLP** | Units: **mg/L** | Prep Date: | Run ID: **TJA IRIS_111111A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29960** | TestNo: **E1311/6010** | | Analysis Date: **11/11/2011** | SeqNo: **792989** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead, TCLP | 0.9745 | 0.0200 | 1 | 0 | 97.4 | 90 | 110 | 0 | 0 | | |

| Sample ID: **ICV** | SampType: **ICV** | TestCode: **6010_TCLP** | Units: **mg/L** | Prep Date: | Run ID: **TJA IRIS_111111A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29960** | TestNo: **E1311/6010** | | Analysis Date: **11/11/2011** | SeqNo: **792976** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead, TCLP | 0.9544 | 0.0200 | 1 | 0 | 95.4 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1111072
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_TCLP**

| Sample ID: **MB-29964** | SampType: **MBLK** | TestCode: **HG_TCLP** | Units: **mg/L** | Prep Date: **11/11/2011** | Run ID: **CVAA_111111A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29964** | TestNo: **1311/7000** | | Analysis Date: **11/11/2011** | SeqNo: **792959** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury, TCLP | ND | 0.000100 | | | | | | | | | |

| Sample ID: **LCS-29964** | SampType: **LCS** | TestCode: **HG_TCLP** | Units: **mg/L** | Prep Date: **11/11/2011** | Run ID: **CVAA_111111A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29964** | TestNo: **1311/7000** | | Analysis Date: **11/11/2011** | SeqNo: **792958** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury, TCLP | 0.004115 | 0.000100 | 0.004 | 0 | 103 | 85.4 | 116 | 0 | 0 | | |

| Sample ID: **1111072-01AMS** | SampType: **MS** | TestCode: **HG_TCLP** | Units: **mg/L** | Prep Date: **11/11/2011** | Run ID: **CVAA_111111A** |
|---|---|---|---|---|---|
| Client ID: **Comp (TP-16 & TP-1** | Batch ID: **29964** | TestNo: **1311/7000** | | Analysis Date: **11/11/2011** | SeqNo: **792955** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury, TCLP | 0.003923 | 0.000100 | 0.004 | 0 | 98.1 | 69.5 | 125 | 0 | 0 | | |

| Sample ID: **1111072-01AMSD** | SampType: **MSD** | TestCode: **HG_TCLP** | Units: **mg/L** | Prep Date: **11/11/2011** | Run ID: **CVAA_111111A** |
|---|---|---|---|---|---|
| Client ID: **Comp (TP-16 & TP-1** | Batch ID: **29964** | TestNo: **1311/7000** | | Analysis Date: **11/11/2011** | SeqNo: **792956** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury, TCLP | 0.004088 | 0.000100 | 0.004 | 0 | 102 | 69.5 | 125 | 0.003923 | 4.12 | 20 | |

| Sample ID: **1111072-01ADUP** | SampType: **DUP** | TestCode: **HG_TCLP** | Units: **mg/L** | Prep Date: **11/11/2011** | Run ID: **CVAA_111111A** |
|---|---|---|---|---|---|
| Client ID: **Comp (TP-16 & TP-1** | Batch ID: **29964** | TestNo: **1311/7000** | | Analysis Date: **11/11/2011** | SeqNo: **792954** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury, TCLP | ND | 0.000100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | |

| Sample ID: **CCV** | SampType: **CCV** | TestCode: **HG_TCLP** | Units: **mg/L** | Prep Date: | Run ID: **CVAA_111111A** |
|---|---|---|---|---|---|
| Client ID: **ZZZZZ** | Batch ID: **29964** | TestNo: **1311/7000** | | Analysis Date: **11/11/2011** | SeqNo: **792957** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

**CLIENT:** Maul, Foster & Alongi
**Work Order:** 1111072
**Project:** Port of C/W / 0229.04.03

# ANALYTICAL QC SUMMARY REPORT

**TestCode: HG_TCLP**

Sample ID: **CCV** SampType: **CCV** TestCode: **HG_TCLP** Units: **mg/L** Prep Date: Run ID: **CVAA_111111A**
Client ID: **ZZZZZ** Batch ID: **29964** TestNo: **1311/7000** Analysis Date: **11/11/2011** SeqNo: **792957**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury, TCLP | 0.0036 | 0.000100 | 0.004 | 0 | 90 | 90 | 110 | 0 | 0 | | |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

# KEY TO FLAGS

Rev. May 12, 2010

| | |
|---|---|
| A | This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards |
| A1 | This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards. |
| A2 | This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard. |
| A3 | The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type. |
| A4 | The product appears to be aged or degraded diesel. |
| B | The blank exhibited a positive result great than the reporting limit for this compound. |
| CN | See Case Narrative. |
| D | Result is based from a dilution. |
| E | Result exceeds the calibration range for this compound. The result should be considered as estimate. |
| F | The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library. |
| G | Result may be biased high due to biogenic interferences. Clean up is recommended. |
| H | Sample was analyzed outside recommended holding time. |
| HT | At clients request, samples was analyzed outside of recommended holding time. |
| J | The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration. |
| K | Diesel result is biased high due to amount of Oil contained in the sample. |
| L | Diesel result is biased high due to amount of Gasoline contained in the sample. |
| M | Oil result is biased high due to amount of Diesel contained in the sample. |
| MC | Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant. |
| MI | Result is outside control limits due to matrix interference. |
| MSA | Value determined by Method of Standard Addition. |
| O | Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements. |
| Q | Detection levels elevated due to sample matrix. |
| R | RPD control limits were exceeded. |
| RF | Duplicate failed due to result being at or near the method-reporting limit. |
| RP | Matrix spike values exceed established QC limits; post digestion spike is in control. |
| S | Recovery is outside control limits. |
| SC | Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements. |
| * | The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit. |

For Specialty ~~APEX LABS~~

# CHAIN OF CUSTODY

Lab # 1111072 COC 2 of 2

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: MFA | Project Mgr: Alan Hughes/Christine Johnson | Project Name: Port of C/W | Project # 0329.04.03

Address: | Phone: | Fax: | Email: ahughes@mwhpoker.com

Sampled by: Meagnan Gallagher

Site Location: OR (WA)

Other: _____

ANALYSIS REQUEST

| | SAMPLE ID | LAB ID # | DATE | TIME | MATRIX | # OF CONTAINERS | NWTPH-HCID | NWTPH-Dx | NWTPH-Gx | 8260 VOC | 8260 RBDM VOCs | 8260 BTEX | 8270 SVOC | 8270 SIM PAHs | 8082 PCBs | 600 TTO | RCRA Metals (8) | TCLP Metals (8) | Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, (Pb), Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL DISS (TCLP) | 1200- COLS | 1200-Z | Comp |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TP-16-S-1.5 | | 10/27 | 13:30 | S | S | HOLD | | | | | | | X | X | | X | | | | | |
| 2 | TP-16-S-4.0 | | | 13:45 | | | | | | | | | | X | X | | X | | X (2) | | | X |
| 3 | TP-16-S-10.0 | | | 14:25 | | | HOLD | | | | | | | X | X | | X | | | | | |
| 4 | TP-17-S-1.5 | | | 14:50 | | | HOLD | | | | | | | X | X | | X | | | | | |
| 5 | TP-17-S-4.0 | | | 15:05 | | | | | | | | | | X | X | | X | | | | | X |
| 6 | TP-17-S-10.0 | | | 15:23 | | | HOLD | | | | | | | X | X | | X | | | | | |
| 7 | TP-18-S-1.5 | | | 15:25 | | | HOLD | | | | | | | | | | | | | | | |
| 8 | TP-18-S-4.0 | | | 15:55 | | | | | | | | | | X | X | | X | | | | | |
| 9 | TP-18-S-10.0 | | | 16:05 | | | HOLD | | | | | | | | | | | | | | | |
| * | Comp (TP-16 & TP-17) | | | | | | | | | | | | | | | | | | X | | | |

Normal Turn Around Time (TAT) = 7-10 Business Days (YES) NO

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS:

All samples not analyzed please archive for potential follow up

SAMPLES ARE HELD FOR 30 DAYS

| RELINQUISHED BY: | RECEIVED BY: | RELINQUISHED BY: | RECEIVED BY: |
|---|---|---|---|
| Signature: [redacted] | Signature: | Signature: | Signature: Cindy Hillyard |
| Date: 10/27 | Date: | Date: 10/28/14 | Date: 10/28/14 |
| Printed Name: Meagnan Gallagher | Printed Name: Jorge Szymanski | Printed Name: Jorge Szymanski | Printed Name: Cindy Hillyard |
| Time: 17:08 | Time: 0955 | Time: 12:10 | Time: 12:10 |
| Company: MFA | Company: | Company: Specialty | Company: |

# APPENDIX E

## DATA VALIDATION MEMORANDUM

# DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. 0229.04.03 | OCTOBER 10, 2011 | PORT OF CAMAS-WASHOUGAL

This report reviews the analytical results for soil and water samples collected by the Maul Foster & Alongi, Inc. (MFA) project team on the Port of Camas-Washougal site. The samples were collected in September 2011.

Specialty Analytical (SA) and Analytical Resources, Incorporated (ARI) performed the analyses. SA report numbers 1109044, 1109045, 1109059, 1109060, 1109062, 1109122, 1110043, 1110044, 1110248rev1, and ARI report number TN10 were reviewed. The analyses performed are listed below.

| Analysis | Reference |
|---|---|
| Total Metals | USEPA 6010A |
| Total Metals by ICP/MS | USEPA SW6020 |
| Volatile Organic Compounds | USEPA 8260B |
| Polycyclic Aromatic Hydrocarbons | USEPA 8270SIM |
| PCBs | USEPA 8082 |
| Semivolatile Organic Compounds | USEPA 8270D |
| Diesel and Lube Oil | NWTPH-Dx |
| Gasoline | NWTPH-Gx |
| TCLP Metals | USEPA 1311/6010 |
| Mercury | USEPA SW7471 |
| Particle Size Distribution | D422 |
| Total Solids | A2216 |
| Total Organic Carbon | USEPA SW9060 |

NWTPH = Northwest Total Petroleum Hydrocarbons.
PCB = polychlorinated biphenyl.
TCLP = toxicity characteristic leaching procedure.
USEPA = U.S. Environmental Protection Agency.

## DATA QUALIFICATION

Analytical results were evaluated according to applicable sections of USEPA procedures (USEPA, 2004, 2008), and appropriate laboratory and method-specific guidelines (ARI, 2009; SA, 2010; USEPA, 1986).

The laboratory provided the following case narrative for samples in report number 1109062: "The Laboratory Control Sample recovery of 1, 1-Dichloroethene for Volatile Organic Compounds by EPA 8260B was outside laboratory control limits (high). All associated samples were non-detect for this compound."

The laboratory provided the following case narrative for samples SP-1, SP-2, SS-23-1, and SS-24-1: "Specialty Analytical Sample No.'s 1109062-13, -14, -18, and -19 were analyzed for PCB Aroclor's by EPA 8082. The samples contain Aroclor 1260 plus additional peaks that appear to be from a different Aroclor, but are unidentifiable. Additional analysis may be required to identify and quantify these compounds."

The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

# HOLDING TIMES, PRESERVATION, AND SAMPLE STORAGE

## Holding Times

Samples TP-4-3 (USEPA Method SW7471), SS-1-1.5 (USEPA Method 8270SIM), SS-11-2 (USEPA Method 8270SIM), and SS-14-1 (USEPA 8260B) as part of lab reports 1110043 and 1110044 were analyzed outside recommended holding times. Sample extractions were conducted 29 days after collection; thus USEPA Method 8260B result non-detects were rejected "R," 8260B detections were flagged as estimated "J," and USEPA Method 8270SIM and SW7471 were qualified as estimated "J."

Sample MW-07 by USEPA Method 8270SIM and Method 8270D (followup analyses) as part of lab report 1110248rev1 were analyzed outside recommended holding times. Sample extractions were conducted 12 and 13 days after collection; based on function guidelines and the use of professional judgment, the reviewer has qualified all results analyzed by USEPA Method 8270SIM and 8270D as "J" estimated or "UJ."

All other extractions and analyses were performed within the recommended holding time criteria.

## Preservation and Sample Storage

The samples were preserved and stored appropriately.

# BLANKS

## Method Blanks

Laboratory method blank analyses were performed at the required frequencies. The reviewer took no action based on minor method blank detections, as the associated samples were either non-detects or had results greater than 10 times that of the method blank hit.

### Trip Blanks

Trip blanks were not required for this sampling event.

### Equipment Rinsate Blanks

Equipment rinsate blanks were not required for this sampling event, as all samples were collected using dedicated, single-use equipment.

## SURROGATE RECOVERY RESULTS

The samples were spiked with surrogate compounds to evaluate laboratory performance on individual samples.

The reviewer took no action based on minor surrogate outliers or surrogate percent recoveries that were outside of acceptance limits, as the laboratory appropriately documented and qualified surrogate outliers. Associated batch quality assurance and quality control (QC) for samples with surrogate outliers were within acceptance limits. All remaining surrogate recoveries were within acceptance limits.

## MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

MS/MSD results are used to evaluate laboratory precision and accuracy. All MS/MSD samples were extracted and analyzed at the required frequency. Various recovery results were outside acceptance limits because of one or more of the following:

- The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.
- Matrix interferences prevented accurate quantitation of the spike recovery.

The reviewer took no action based on minor MS/MSD outliers, as batch laboratory control sample (LCS) percent recoveries were within acceptance limits and remaining MS/MSD results were within acceptance limits for percent recovery and relative percent difference (RPD). In cases of MS/MSD exceedances, the laboratory appropriately documented and qualified the outliers. The reviewer added the following qualifications:

| Sample | Component | Original Result | Qualified Result |
|---|---|---|---|
| Sed-01 | Lead | 5.16 | 5.16 J |
| Sed-02 | Lead | 5.46 | 5.46 J |
| Sed-03 | Lead | 4.73 | 4.73 J |
| Sed-04 | Lead | 8.94 | 8.94 J |
| Sed-01 | Antimony | 107 | 107 UJ |
| Sed-02 | Antimony | 145 | 145 J |
| Sed-03 | Antimony | 103 | 103 UJ |
| Sed-04 | Antimony | 153 | 153 J |
| Open Pit 1-S-20.5 | Barium | 213 | 213 J |

| Sample | Component | Original Result | Qualified Result |
|---|---|---|---|
| Open Pit 1-S-20.5 | Chromium | 16.1 | 16.1 J |
| Open Pit 1-S-20.5 | Lead | 7.86 | 7.86 J |

All other MS/MSD recoveries and RPDs were within acceptance limits.

## LABORATORY DUPLICATE RESULTS

Duplicate results are used to evaluate laboratory precision. All duplicate samples were extracted and analyzed at the required frequency. Based on RPD limit exceedances, the reviewer made the following qualifications:

| Sample | Component | Original Result | Qualified Result |
|---|---|---|---|
| TP-5-8 | Barium | 186 | 186 J |
| TP-7-2 | Barium | 106 | 106 J |
| TP-8-1.5 | Barium | 238 | 238 J |
| SS-1-1.5 | Barium | 147 | 147 J |
| SS-2-1.5 | Barium | 139 | 139 J |

Various other recovery results were outside of acceptance limits because of matrix interferences preventing accurate quantitation. The reviewer took no action, as other batch QC was within acceptance limits. In cases of exceedances, the laboratory appropriately documented and qualified the outliers.

## LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS

An LCS/laboratory control sample duplicate (LCSD) is spiked with target analytes to provide information on laboratory precision and accuracy. The LCS/LCSD samples were extracted and analyzed at the required frequency. No actions were taken for minor exceedances of LCSD RPDs, as all associated samples were non-detects and all other batch QC met acceptance criteria.

## FIELD DUPLICATE RESULTS

No field duplicates were submitted.

## REPORTING LIMITS

SA used routine reporting limits for non-detect results, except for samples requiring dilutions because of high analyte concentrations and/or matrix interferences.

## DATA PACKAGE

The data packages were reviewed for transcription errors, omissions, and anomalies. None were found.

# REFERENCES

ARI. 2009. Quality assurance plan. Analytical Resources, Incorporated, Tukwila, Washington.

SA. 2010. Quality assurance manual. Specialty Analytical, Clackamas, Oregon.

USEPA. 1986. Test methods for evaluating solid waste: physical/chemical methods. EPA-530/SW-846. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. September (revision 6, February 2007).

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